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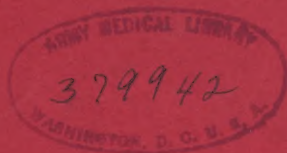
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Arkansas, Dept. of Education

Course of Study in Health,
Safety and Physical Education
for
Arkansas Schools

Elementary Section



State Department of Education

RALPH B. JONES, *Commissioner of Education*

Little Rock, Arkansas

1943

Course of Study in Health,
Safety and Physical Education
for
Arkansas Schools
Arkansas Dept. of Education
Elementary Section

Bulletin No. IX
The Arkansas Cooperative Program
To Improve Instruction
(Second Edition)

DIVISION OF INSTRUCTION
MORGAN R. OWENS, *Director*

State Department of Education
RALPH B. JONES, *Commissioner of Education*
Little Rock, Arkansas

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LETTER OF TRANSMITTAL

The course of study in health, safety, and physical education herewith presented is a second edition of the bulletin published in 1939 in compliance with the law enacted by the General Assembly of 1935 requiring instruction in physical education and in personal and community health and safety in elementary and secondary schools. To meet the urgent need of schools for instructional materials in these important fields, which has been greatly increased by wartime conditions, a second edition of the 1939 bulletin has been printed.

We had neither the time nor the facilities which would be required to revise this course of study; but it is fundamentally sound, and with appropriate adaptations it may be used as the basis of instruction in the areas included in it. Supplementing this course of study two mimeographed bulletins have recently been published by the State Department of Education: *Suggested Physical Activities for A War-Time Physical Fitness Program in Arkansas High Schools* and *Physical Fitness in Arkansas High Schools Through A Physical Education Program*.

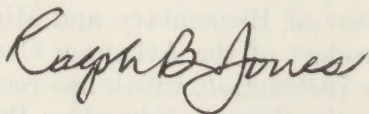
This course of study was prepared in the state curriculum laboratory in the University of Arkansas during the summers of 1938 and 1939 under the direction of Dr. H. G. Hotz, Dean of the College of Education; Dr. M. R. Owens, Director of the Division of Instruction, State Department of Education; W. F. Hall, State Supervisor of Elementary Schools; and C. S. Blackburn, Assistant State Supervisor of Elementary and High Schools. It is another product of the Arkansas Cooperative Program to Improve Instruction, which has received liberal financial aid from the General Education Board.

The cooperative effort of many persons, institutions, and organizations made possible the preparation of this course of study. Members of the staff of the College of Education and the Department of Physical Education in the University of Arkansas, representatives of the State Board of Health, superintendents, principals, classroom teachers, directors of physical education, and county ex-

aminers, whose names appear in Appendix C, comprised the laboratory groups which produced the course of study.

Valuable assistance was contributed by the State Police Department, the Safety Division of the State Highway Department, the Arkansas Automobile Association, the Arkansas Tuberculosis Association, the Women's Christian Temperance Union, and the American Junior Red Cross. The materials produced in 1938 were criticised by the Seminar in Teacher Education at the University, which included representatives of the colleges in Arkansas, the Arkansas Congress of Parents and Teachers, public school officials, and classroom teachers. In the preparation of the materials for publication in tentative form valuable assistance was given by Dr. C. M. Reinoehl, Professor of Education, University of Arkansas, and T. M. Stinnett, State Director of Teacher Education and Certification. This tentative course of study was used in seventy-five centers during 1938-39 and completely revised in the curriculum laboratory in the summer of 1939. The editorial work on the course of study completed in 1939 was done by Dr. H. G. Hotz.

To all those who participated in the preparation of this bulletin, I wish to express my appreciation. The preparation of a course of study in fields so comprehensive is a stupendous undertaking, and those who had a part in its production have rendered distinctive service not only in improving public education in Arkansas but in promoting the health, safety, and wellbeing of our people now and in the future.

A handwritten signature in cursive script, reading "Ralph B. Jones". The signature is written in dark ink and is positioned above the printed name of the State Commissioner of Education.

State Commissioner of Education.

FOREWORD

This course of study is based on the philosophy of the Arkansas Cooperative Program to Improve Instruction. Although certain phases of health, safety, and physical education involve activities which must be assigned definite time allotment in the school day, instruction in these fields should be integrated, whenever possible, with other subjects and activities. A functional program of instruction in health and safety consists of more than the study of subject matter just as an effective course in physical education emphasizes activities broader in scope than mere exercise of the muscles.

In this course of study, health education includes: health services to be rendered by the school and outside health agencies working together; improving conditions and practices in the school which affect the health of pupils and teachers; and instruction in the science of health, with emphasis on basic understandings, proper attitudes toward personal and community health problems, and habits conducive to good health.

Physical education, with emphasis on *education*, is closely related to health education in that it promotes better health of participants; but it is broader in scope than this, providing wholesome recreational activities which are an effective means of attaining important objectives of education.

Safety education is likewise closely related to the lives of pupils and the community. Instruction in safety, therefore, should begin with pupil, school, and community needs. This implies the necessity of integrating safety instruction with other subjects and also direct instruction in safe practices in relation to the environmental hazards which confront pupils in their daily living.

M. R. OWENS,
Director, Division of Instruction.

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I. INTRODUCTION

This bulletin presents a modern program of health, safety, and physical education for the schools of Arkansas. It is to be used as an aid in guiding the teacher in his efforts to organize, develop, and evaluate instructional procedures so that the individual may make desirable adjustments in his way of living and that he may increasingly do his part in securing for himself and others the conditions necessary for abundant health and happiness.

THE NEED FOR HEALTH, SAFETY, AND PHYSICAL EDUCATION

That there is a need for teaching health, safety, and physical education is revealed by the striking evidence of health examinations given in various sections of the country; the health status of school children as shown by numerous school surveys; the recognized debilitating effects of formalized classroom procedures; the economic waste to communities where illness of pupils interferes with school attendance; the limitations placed upon social usefulness because of sickness; the deplorable number of preventable accidents on the streets and highways, at home and at school; the problem of free play and adequate physical activity in an industrialized society; the pressing necessity for free clinical services in both rural and urban centers; and the positive need for construction education in the control of communicable diseases. These are only a few of the more important factors that justify the elevation of health, safety, and physical education to a position of prominence in the school curriculum.

LEGAL REQUIREMENTS IN ARKANSAS

To promote a more comprehensive and effective program of health instruction and physical education in the public schools of Arkansas the following law was passed by the Legislature in 1935:¹

¹*The School Laws of Arkansas*, State Department of Education, Little Rock. 1937, p. 59.

It shall be the duty of the Commissioner of Education, as executive officer of the State Board of Education, to outline a course of physical training for use in the various schools of the state, and for this purpose he shall have the advice and co-operation of the State Board of Health. Said course shall be adapted to the ages, capabilities and health of the pupils in the several grades and departments, and shall include exercises, calisthenics, formation drills, instruction in personal and community health and safety, and in preventing and correcting bodily deficiency. Every pupil in the schools of this state, except such as may be excused by reason of bodily defect or physical deficiency, shall be required to take the course of physical training herein provided; the time devoted to such course to be as prescribed in the outline prepared by the Commissioner of Education. It shall be the duty of the county and city superintendents of schools, boards of directors, and other school officers to see that the provisions of this section are carried into effect.

It is unfortunate that the term "physical training" was designated as the chief component in this law. Although no longer in good repute, this term was undoubtedly intended to include the whole area of health, safety, and physical education. Even as early as 1917 the terms "physical education" and "health" were quite generally used and preferred by many authorities. Continued use of the old term tends to obscure the educational implications in those fields for the layman.

In the beginning it was natural to think of health and physical training as synonymous. Today that concept is rare. Physical education is now regarded as a distinct administrative division of education while health education, including service, supervision, and instruction, has gained recognition as a separate, though interrelated major field. They should be so regarded and promoted.

SCOPE OF A MODERN PROGRAM OF HEALTH, SAFETY, AND
PHYSICAL EDUCATION

A school program in health, safety, and physical education relates to all factors or conditions inherent in the school plant and to all activities and duties of executives, teachers, specialists, janitors, pupils, or others connected with the school that have any bearings, however slight the degree, upon health, safety, recreation, and physical fitness of pupils and teachers.¹

In the preparation of this course of study an effort has been made to bring health, safety, and physical education into general accord with the newer philosophy and psychology of education. Much of the material is organized in the form of large teaching units, and suggestions are made for the further development of broad instructional units in each era. Wherever possible, provision is also made for integrating these materials with other subjects or for incorporating them in the core curriculum in accordance with the curriculum reorganization plans proposed by the State Program to Improve Instruction.²

The materials of instruction and the suggested activities in this course of study are organized and outlined under three major fields:

I. Health Education

1. Health Protection

a. Supervision

b. Service

2. Health Instruction

II. Safety Education

III. Physical Education and Development

The major field in health education is further subdivided and developed under the sub-fields of Health Supervision, Health Service and Health Instruction, as

¹*Standards in Health and Safety Education*, Department of Public Instruction, Trenton, New Jersey. 1932, p. 3.

²Arkansas Co-operative Program to Improve Instruction, *Tentative Course of Study for Arkansas Schools*. Elementary Section, pp. 60-68; Secondary Section, pp. 29-122. State Department of Education, Little Rock. 1936.

noted above. This horizontal organization has been followed throughout the entire course of study. Vertically, the materials have been organized and adapted to the following maturation levels:—primary grades, intermediate grades, junior high school, and senior high school.

DEFINITION OF TERMS USED

Health Education. Health education is the sum of all experiences which favorably influence habits, attitudes, and knowledge relating to individual, community, and racial health.

Health Supervision. Health supervision involves the provision of a wholesome environment, the organization of a healthful school day, and the establishment of pupil-teacher relationships that give a safe and sanitary school, favorable to the best development and living of pupils and teachers.

Health Service. Health service comprises all those procedures designed to determine the health status of the child. These are his co-operation in health protection and maintenance, to inform parents of the defects that may be present, to prevent diseases and to correct remedial defects.

Health Instruction. Health instruction is that organization of learning experiences directed toward the development of favorable health knowledge, attitudes, and practices.¹

Safety Education. Safety education is that composite of knowledge, habit, and attitude which governs the thought and behavior of the individual in all familiar situations where accidents may occur.²

Physical Education. Physical education is that phase of education which is concerned, first, with the organiza-

¹*Report of Committee on Health Education of the American Physical Education Association, Journal of Health and Physical Education, Vol. V, No. 10 (December, 1934), p. 17.*

²*Standards in Health and Safety Education, Department of Public Instruction, Trenton, New Jersey, 1932, p. 8.*

tion and the leadership of children in big-muscle activities, to gain the development and the adjustment inherent in the activities according to social standards; and, second, with the control of health or growth conditions naturally associated with the leadership of the activities, so that the educational process may go on without growth handicaps.¹

GENERAL PRINCIPLES

1. The school is accepting the fact that education is for the whole child rather than for the mind alone. Thus the child is regarded as an entity, an integrated organism in which all physical, mental, social, and emotional factors—whether of structure or of function—participate in the learning process without differentiation.
2. The concept of education has been extended to include learnings in all aspects of human living, hence, the acceptance of health, safety, and physical education.
3. Health, safety, and physical education are a part of general education and should contribute to it.
4. Health, safety, and physical education are being increasingly recognized as neither subjects nor ends in themselves, but the means to a capacity for living in the sense that the individual is capable of using his powers to the full extent and of enjoying the spirit and adventure of life.
5. The recognition of physical and mental fitness as essential in educational achievement is gaining ground.
6. Behavior rather than knowledge alone, the manner of living rather than the learning of facts about life, are indicative of the new emphasis upon health, safety and physical education.

¹Clark W. Heatherington, *School Programs in Physical Education*, World Book Company. 1932, p. 45.

7. The teacher should exemplify in attitude and behavior the best health and safety practices.
8. Experiences arising out of the pupil's daily life should be used as teaching situations.
9. Opportunities should be provided in which the pupil may experience satisfaction in the repeated practice of health habits, safety habits, and physical exercise.
10. Efforts to correlate the child health activities of schools, organizations, and the medical and dental professions are increasingly more successful.

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II. EDUCATIONAL OBJECTIVES AND CHILD NEEDS IN HEALTH, SAFETY, AND PHYSICAL EDUCATION

The concern of the educative process is the growth and well-being of the whole child. To discharge this responsibility it is essential that educational objectives be clearly stated, that the needs of children be determined and that all areas of the curriculum be integrated to meet these needs. A further implication of this statement is that the physical well-being of each child must be regarded as much a part of the organic development of the whole child as the social, intellectual, and emotional aspects of his behavior.

BASIC PHILOSOPHY OF THE COURSE OF STUDY

In the construction of this course of study, the following concepts in general have been accepted as indicative of the modern educational philosophy of curriculum building:¹

1. A good curriculum is evolved from an analytic study of the child in his environment, carefully considered in the light of social analysis.
2. The curriculum is concerned with more than subject matter; it is a series of planned and guided experiences through which the child learns to live more purposefully and effectively.
3. The good curriculum is never static; it must be dynamic and far-reaching, practical at the present time and yet considerate of future changing conditions.

GENERAL OBJECTIVES OF HEALTH, SAFETY, AND PHYSICAL EDUCATION

The objectives of education must be briefly summarized as the development of an integrated personality with ability to meet life's present and future needs and problems. In stating the general objectives of health, safety, and physical education, it is assumed further that all of these fields of experience are interrelated aspects of personality development.

¹Helen M. Smith and Helen L. Coops, *Physical and Health Education*, American Book Company, 1938, p. 59.

*Objectives of Health Education:*¹

1. To provide a school environment that will be conducive to the best mental and physical development of pupils.
2. To help pupils to recognize their individual conditions and the means of so doing, as far as it is possible.
3. To stimulate pupils in habits and attitudes of vigorous living that will provide the basis for happy and integrated personalities.
4. To acquaint pupils with the sources of knowledge for the conservation and improvement of health and with the methods by which such knowledge may be used effectively.
5. To arouse the interest of pupils in the improvement of present and future health conditions in the home, the family, and the community.

*Objectives of Physical Education:*³

The following statement of the general objective of safety education was formulated at the White House Conference on Child Health and Protection.

The general objective of safety education is the development of such safety habits, safety skills, and safety attitudes as will cause a decrease in number of accidental deaths and injuries to children, produce safer adults for the future, and give to each individual, freedom from fears and conditions that might restrict his enjoyment of life.²

*Objectives of Physical Education:*³

1. To promote optimal vigor among pupils by affording opportunity for wholesome physical activity.

¹*Ibid.*, p. 39.

²Florence Fox, *Safety Education*, U. S. Office of Education, Bulletin, 1932. No. 8, Washington, D. C., p. 29.

³Helen M. Smith and Helen L. Coops, *Op. cit.*, pp. 39-40.

2. To assist pupils in acquiring a wide variety of physical skills that may be practiced in their leisure time.
3. To help pupils to develop the desire for continuing at suitable play activities after school hours.
4. To aid pupils in achieving emotional stability through their experiences in skillfully handled game situations.
5. To provide opportunities for the experiences of pupils in harmonious adjustments to others through activity involving leadership, followership, and co-operation.

NEEDS OF CHILDREN

The most important consideration to be kept in mind by the teacher is the adjustment of the program to the immediate needs of the children. The paramount needs on the elementary and the secondary school levels are:

The Elementary School:

1. A greater development of co-ordination through an increased variety of activities.
2. Promotion of better health through health service rendered by the State Health Department and the employment of a part-time or full-time school nurse.
3. Integrating health instruction and formation of health habits in the regular school program.
4. Developing skills and attitudes, to promote safer living in the home, at school, and in the child's immediate environment.
5. Promotion of social and cultural training through group contacts.
6. Natural expression of fundamental motor rhythm, with or without music.
7. Freedom of movement and the unconscious control of manners.

8. Opportunity to develop the imaginative and self-expressive instincts of primary grade pupils through dramatic, story, and rhythmic plays.

The Secondary School:

1. Knowledge of the parts and functions of the body, simple sex education, and an understanding of the importance of maintaining personal health to promote healthful living in a complex society.
2. Development of safety skills for self-protection and the protection of others as demanded by modern living conditions.
3. Promotion of a physical education program that will:
 - a. Secure the benefits of big muscle activity.
 - b. Assure the development of the motor skills equal to the maturity of the pupil.
 - c. Develop habits of wholesome recreation that will have a thorough carry-over value into after school life.
4. Adoption of adequate testing procedures for pupil classification and the formation of criteria by which to measure pupil progress and growth.
5. Correlation and centralization of the efforts of all co-operating agencies related to the improvement of the physical and health status of the pupil.

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White House Conference on Child Health and Protection, *The School Health Program*, Section IIIC. Appleton, 1932, pp. 3-34.

III. ADMINISTERING THE HEALTH, SAFETY, AND PHYSICAL EDUCATION PROGRAM

It has been repeatedly shown that mental growth and physical development are interrelated aspects of personality development. Mental growth is stimulated by physical development, and vice versa. Furthermore, physical growth is greatest during the elementary school period and is generally completed in the "teens." It is, therefore, highly important that health, safety, and physical education should be stressed in the curriculum for all of the grades in the elementary school and in the high school.

PUPIL CLASSIFICATION

The pupils in a school should be classified into groups that are as homogeneous as possible for the purpose of increasing the effectiveness of the individual and group instruction.

Health Instruction. For health instruction, the classification upon the basis of present grade placement is undoubtedly the most satisfactory. This procedure in the classification of pupils will greatly facilitate the integration of health instruction with other subjects taught in a given grade.

Safety Education. Classification here also is generally determined by present grade placements. It is important, however, to correlate safety instruction with all other phases of the school program.

Physical Education. Classification in physical education is necessary to promote better instruction. "Individuals must be classified in all competitive events according to age, height, and weight, or a combination of these factors. Any one of these factors used by itself has been found unsatisfactory."¹ The Neilson-Van Hagen Age, Height, Weight Chart² is recommended for classification purposes. A group of any number may be di-

¹N. P. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. Barnes. 1930, p. 15.

²*Ibid.*, pp. 16-17.

vided into homogeneous groups according to size and age. These groups may be reclassified within themselves, the number of groups to be determined by the number to be classified.

SEX SEGREGATION

There is a growing tendency among leaders in the field to present the recreation and physical education program to mixed groups in so far as the activities will permit. Boys and girls, men and women, live together, go to school together and should learn to play together. Therefore, it is recommended that there be no segregating of the sexes in rythmical activities, and that games, individual or dual, and all other activities with a recreational "carry-over" should be engaged in by mixed groups whenever it is practical. Gymnastics, stunts, tumbling and pyramid building, and team sports (such as soccer, baseball, etc.), above the fourth grade, however, require segregation.

CLASS SIZE

The most desirable class size for health instruction, safety education, and physical education is 25 to 35 pupils.

TIME ALLOTMENT AND CREDIT

All schools should endeavor to meet the requirements concerning time allotments for health, safety, and physical education as indicated below, and should grant credit for the work upon graduation.

ELEMENTARY SCHOOLS

Supervised Play. All pupils in the elementary school shall devote a minimum of 120 minutes a week to supervised physical education and play activities. (It is expected that the major portion of this time shall be devoted to supervised physical education, as outlined in this course of study.) This may be given in two daily periods

of approximately 15 minutes each or one daily period of 25 minutes.¹ In addition to this requirement all elementary schools shall provide a minimum of four two-minute relaxation periods a day.²

Formal Instruction. At least 75 minutes per week shall be devoted to health and safety instruction. All health and safety instruction, whether presented as separate subjects or integrated with other subjects, will be recognized as meeting this minimum 75-minute requirement.

SECONDARY SCHOOLS

All pupils in the secondary school should devote a minimum of 80 minutes a week to directed physical education activities under the direction of school authorities. The program should be sufficiently varied so that all pupils can participate. For this minimum program in physical education a school may grant credit not to exceed one-fourth unit a year.

In addition to the credit in physical education, a total of one-half unit of credit may be granted each year for health instruction and one-half unit to safety education, if this work is offered during separate periods and is not integrated with other subjects.³

SUGGESTED DAILY SCHEDULES

To assist teachers and principals in the administration of this instructional program in the smaller schools, a few sample or typical daily schedules are included.

¹In organized activities the playground or gymnasium should not be overcrowded by having two or three grades occupying this space at the same time.

²See: Physical Education for Primary and Intermediate Grades, p. 165.

³In grades 7 to 12 health instruction and safety education may be integrated with other subjects. If so, credit allowance is taken care of in the other subjects. Health instruction and safety education may also be integrated with physical education for one-fourth unit of credit per year to each of these two subjects, provided the requisite amount of time is allotted to each subject for this work.

ELEMENTARY SCHOOLS
SCHEDULE FOR A ONE-TEACHER SIX-GRADE SCHOOL¹

TIME	GRADE 1	GRADES 2 and 3	GRADES 4, 5, & 6		
8:30 to 8:50		OPENING EXERCISES			
8:50 to 10:15	Reading	ACTIVITY PERIOD Activity Unit: Reading Geography Health	Activity Unit: History & Safety Geography Science & Health		
10:15 to 10:30	Recess: Supervised Physical Education and Play				
10:30 to 11:30	Language and writing				
11:30	Relaxation Period, Two Minutes				
11:32 to 12:00	Word and Phonic Drill		Spelling		
NOON					
1:00 to 2:00	READING				
2:00 to 2:15	Recess: Supervised Physical Education and Play				
2:15 to 3:15	Reading	ARITHMETIC			
Relaxation Period, Two Minutes					
3:17 to 3:45	Monday ART	Tuesday HEALTH AND SAFETY	Wednesday ART	Thursday MUSIC	Friday CLUBS

¹Arkansas Cooperative Program to Improve Instruction, *Instructional Guidance and Suggested Materials for Small Schools*, Bulletin VI, State Department of Education, Little Rock. 1937, p. 19.

SCHEDULE FOR A TWO-TEACHER SIX-GRADE SCHOOL¹

	TEACHER A			TEACHER B		
TIME	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
8:45 to 9:00	OPENING EXERCISES			OPEN EXERCISES		
9:00 to 10:15	ACTIVITY PERIOD Reading and Unit Activity Social Studies and Safety Science and Health			Unit Activity History and Safety Geography and Safety Science and Health		
10:15 to 10:30	Recess: Supervised Physical Education and Play			Recess: Supervised Physical Education and Play		
10:30 to 11:30	Reading			Language and Writing		
Relaxation Period, Two Minutes						
11:32 to 12:00	Free Period	Spelling		Spelling		
NOON				NOON		
1:00 to 2:00	Numbers Seat Work Arithmetic			READING		
2:00 to 2:15	Recess: Supervised Physical Education and Play			Recess: Supervised Physical Education and Play		
2:15 to 3:15	Reading: Phonetics, Skills Writing			Arithmetic		
Relaxation Period, Two Minutes						
3:17 to 3:45	Mon. Art & Safety	Tues. Health Art	Wed. Art Music Clubs	Fri. Health Art & Safety	Mon. Tues. Wed. Thurs. Fri. Health Art Music Art Clubs & Safety	Fri. Music Art Clubs

¹*Ibid.*, p. 20.

SECONDARY SCHOOLS

Junior High School. It is recommended that three periods of 40 minutes each per week be used for physical education. These periods shall be long enough to provide for showers and dressing where facilities are available.

Senior High School. It is recommended that two periods of 40 minutes each per week be used for physical education. These periods shall be long enough to provide for showers and dressing where facilities are available.¹

If health and safety education are integrated with physical education it is recommended that five periods of 40 minutes each per week be used.

Example: 40 Minutes Periods	Monday Physical Education	Tuesday Health Instruction	Wednesday Physical Education	Thursday Safety Education	Friday Physical Education
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¹In a four-year high school the time allotment shall be the same for the ninth grade as for the tenth, eleventh and twelfth grades.

SUGGESTED SCHEDULE FOR A THREE-TEACHER SIX-YEAR HIGH SCHOOL¹

TIME	TEACHER A	TEACHER B	TEACHER C		
8:30 to 9:10	English 9	Social Science and Safety	Mathematics 7		
9:10 to 9:50	English 10	Social Science and Safety 7 or 8	Mathematics 9		
9:50 to 10:30	Physical Edu. M. W. F. Grades 7, 8, and 9 Tu. Th. Grades 10, 11, and 12	Study M. W. F. Grades 10, 11, and 12	Study Tu. Th. Grades 7, 8, & 9		
10:30 to 11:15	Foreign Language 9	Science and Health 11 or 12	Mathematics 8		
11:15 to 12:00	Foreign Language 10	Laboratory	Mathematics 10 or 11		
NOON					
1:00 to 1:30	Monday Activities	Tuesday Home Room	Wednesday Art-Music	Thursday Clubs	Friday Assembly
1:30 to 2:15		Social Science and Safety 9 or 10	Science and Health 7 or 8		
2:15 to 3:00	English 11 or 12	English 7	Science and Health 9 or 10		
3:00 to 3:45		English 8	Laboratory		

¹*High School Reorganization.* State Department of Education, Little Rock, 1929, p. 30.

In many schools it will be more profitable to integrate health and safety education in the core curriculum. For a Suggested Schedule for a Four-Teacher Six-Year High School, One Teacher Core see: Arkansas Cooperative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools, Secondary Section.* Bulletin No V. State Department of Education, Little Rock. 1936, p. 173.

APPARATUS AND EQUIPMENT

The apparatus and equipment necessary for a given school will naturally depend upon the extensiveness of the program undertaken by that particular school. Also the program undertaken must be adapted to the physical proportion and possibilities for indoor and outdoor space to carry on a program of physical education.¹

*Suggestions for Elementary School Playground and
Gymnasia*

1. Playground Apparatus and Equipment

Permanent	Seasonal
(1) Sand Bins (10x15')	(1) Playground Balls and Bats
(2) Slides	(2) Basketballs
(3) Springs (low)	(3) Volley Balls and Nets
(4) Jumping Standards	(4) Long Jumping Ropes
(5) Courts and Diamonds	(5) Short Jumping Ropes
(6) Jumping Pits	(6) Sport Balls (rubber)
(7) Giant Stride	(7) Horse Shoes (junior size)
(8) Tape Line	(8) Bean Bags
(9) Whistle	(9) Footballs (touch ball)
(10) First Aid Kit	
(11) Stop Watch	

2. Gymnasia Apparatus and Equipment

Permanent	Seasonal
(1) Scales	(1) Health Balls (various sizes)
(2) Climbing Ropes	(2) Volley Balls and Nets
(3) Chinning Bars	(3) Basketballs
(4) Gym Mats (4x6')	(4) Indoor Baseballs and Bats
(5) Stall Bars	(5) Bean Bags
(6) Adjustable Balance Ladder	(6) Jumping Ropes (long)
(7) Floor Marked for Various Games	(7) Jumping Ropes (short)
(8) Stop Watch	
(9) Ball Inflator	
(10) First Aid Kit	
(11) Whistle	

¹Many schools do not have indoor space for physical activities. It is recommended that such schools take an oversize classroom, remove the seats, place benches along the halls, and use it for this purpose.

SUGGESTED FOR SECONDARY SCHOOL PLAYGROUND
AND GYMNASIA

1. Play Areas and Courts

- | | |
|-----------------------|--------------------------|
| (1) Handball Courts | (4) Touch Football Field |
| (2) Softball Diamond | (5) Basketball Court |
| (3) Volleyball Courts | (6) Tennis Court |

2. Apparatus and Equipment

- | | |
|--------------------------|------------------|
| (1) Handballs | (5) Footballs |
| (2) Volleyballs and Nets | (4) Basketballs |
| (3) Softballs and Bats | (6) Tennis Balls |

EXTRA CURRICULAR ACTIVITIES

Many extra - curricular activities grow out of a Health, Safety, and Physical Education program. These extra-curricular activities may be used to serve as a valuable means in creating interest in a school's program.

Suggested Activities:

1. Health:
 - Health Council
 - Health Clubs
2. Safety:
 - Junior Red Cross
 - Junior Safety Patrol
 - Junior Safety Council
3. Physical Education:
 - Intramurals
 - Interscholastic Athletics
 - Hiking Clubs

MEASURING PUPIL GROWTH AND EVALUATING PUPIL
PROGRESS

Instruction in any field is valid to the extent that needs and results are objectively determined. Although complete and scientific procedures are not as yet available for measuring progress in health, safety, and physical education there are means and tests of sufficient worth to warrant adoption. Many ingenious devices have

been invented for measuring and checking health and safety practices and objective knowledge tests are extensively used. The essential thing however is to stress improvement in the activities rather than the acquisition of knowledge alone.

Health Instruction. Of all the tests designed to measure an individual's knowledge of the various phases of healthful living, the Gates-Strang Health Knowledge Tests¹ are used most extensively. This test can be used in grades three through twelve and two forms are available. It is recommended that Form B be given at the beginning of a term and Form A at the close of the term. By following this procedure the progress of a class or an individual can be readily determined.

Improvement in health habits and practices may be determined by careful observations in the classroom or lunchroom and through questionnaires to parents.

Safety Education. No standardized tests have been developed in the field of safety education. Surveys have been made of accident situations in school, on the playground, in the gymnasium on school busses on the way to school and in homes. It is believed that this has aided in reducing the number of child fatalities.

Physical Education. "Measurement in physical education has two major purposes: (1) the improvement of instruction, and (2) the improvement of the professional program. Only by the accumulation of accurate information about the pupil can we hope to contribute to his individual needs, help him with his difficulties, or diagnose his strengths and weakness."² To carry on an effective program in physical education some form of test is desir-

¹A. T. Gates and Ruth Strang, *Health Knowledge Tests*. Bureau of Publications, Teachers College, Columbia University, New York. 1925.

²N. P. Neilson and F. W. Cozens, *Achievement Scales in Physical Education Activities for Boys and Girls in Elementary and Junior High School*. California State Department of Education, Sacramento. 1934, p. 18.

able. Neilson and Cozens¹ list thirty-three events that have been standardized. These events have been classified by the age, height, weight method and are carefully explained as to procedure in giving the test. Irrespective of the equipment possessed by the school, a teacher can find enough events in the list to make a test for her physical education class. The following are suggested tests for girls and for boys:

<i>Girls</i>	<i>Boys</i>
1. Run 50 yards.	1. Run 75 yards.
2. Basketball throw for goal.	2. Basketball throw for goal.
3. Basketball throw for accuracy.	(Special event)
4. Basketball throw for distance.	3. Running high jump.
5. Potato Race.	4. Base running.
6. Jump and reach.	5. Baseball throw for accuracy.
7. Base running.	6. Baseball throw for distance.
	7. Potato race.
	8. Push up.
	9. Standing broad jump.
	10. Soccer kick.

All of these events can be conducted with the following equipment: Two small blocks of wood, basketball, playground baseball, jumping standards, measuring tape, stop watch, and soccer ball. Standard scores for all events are given in the event scales of Neilson and Cozens.²

Achievement tests should be given at the beginning of the school year and again at the end of the semester. The difference in achievement will determine the progress made by each pupil. This score should be used as one determining factor in assigning marks in physical education.

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¹*Ibid.*

²*Ibid.*

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IV. HEALTH PROTECTION: HEALTH SUPERVISION AND HEALTH SERVICE

Healthful school living should be one of the goals for all educative agencies. To arrive at this goal the health supervision and health service programs should be functional in every school. These programs aim to protect the individual's health through healthful surroundings and to improve the health status of each pupil so that he will be better able, both physically and mentally to take part in the educative process.

Many agencies, both national and local, offer their cooperation to such programs. No school need go without some means for carrying on this work.

LEGAL PROVISIONS

Authority to Employ Physician and Nurse. It is recommended that the board of directors employ a physician or nurse. The *School Laws of Arkansas* state that:

It shall be lawful for the board of directors of any school district in this state to appoint and provide for the payment of one or more physicians or nurses and to assign any person so employed to the public schools of the district for the purpose of making such physical examination of the pupils of said schools as may be prescribed in the rules and regulations of the State Board of Education. Provided, the nature of said examination shall be only such as to detect contagious or infectious diseases, or any defect of sight, hearing, or function or condition of health tending to prevent any pupil from receiving the full benefit of school work.¹

For those schools that cannot meet this recommendation there are two suggested alternatives that may be employed to take care of these provisions:

1. Employment of a part time school physician. He may be hired to devote so many hours to the school a week, at which time he will take care of the services suggested in this program.

2. Subsidize the local health department. A designated time may be arranged when a physician from the personnel of the local health department will visit the school and take part in this program.

¹The *School Laws of Arkansas*, State Department of Education, Little Rock. 1937, p. 59.

OBJECTIVES OF THE HEALTH SUPERVISION AND HEALTH SERVICE PROGRAMS¹*Objectives of Health Supervision:*

1. To provide special and optimum conditions for certain handicapped children who would be at a disadvantage otherwise and to furnish exceptional satisfactory supervision for them.

2. To provide suitable and healthful surroundings and conditions for the child in school.

3. To teach the pupil how to lead a life of health always; and if defective, to teach him also as far as possible, how to escape the handicap of infirmity.

4. To furnish technical information and guidance for all those who contribute in any way to school health service.

Objectives of Health Service:

1. To understand the school child thoroughly; and to help him to realize the best health and development of which he is capable.

2. To protect the pupil against contracting disease from any other child during this period; and to prevent his conveying disease to any other pupil.

3. To discover and call to the parent's attention any existing health defects, more especially those of a remediable nature, and to inspire and assist the parent to provide suitable remedial treatment.

4. To enlist cooperation of all existing agencies and all available influences for the correction of defects of school children and teachers.

SCHOOL HEALTH SUPERVISION

The child spends the major portion of his day in the

¹T. D. Wood and H. G. Rowell, *Health Supervision and Medical Inspection of Schools*. Saunders. 1927, p. 7.

school. This is a valid reason for making the school environment both hygienic and enjoyable. The health supervision program will, therefore, include three phases:

1. Hygiene of the school plant
2. Hygiene of instruction
3. Hygiene of the school staff

1. HYGIENE OF THE SCHOOL PLANT

This phase includes many items in protecting the health of the child. However, only a few of the most important ones can be enumerated here. For the most complete description of the care of the school plant, several references have been cited at the conclusion of this chapter.

Heating and Ventilation. The essential requirements for proper heating and ventilation are as follows:¹

1. The temperature should not be above 68 degrees F., when the outdoor air is cooler than this.
2. There should be sufficient movement of air to provide good circulation without cold drafts.
3. The air should be clean and free from all avoidable dust and unpleasant gases or odors, either from nearby industries or from unclean bodies and clothing of pupils.
4. Slight changes of temperature, even of one to three degrees, provide a useful tonic effect upon the body.
5. The air should have as much of the outdoor quality as possible in the classroom.

Lighting. Two important factors to consider in proper lighting are adequacy of amount and proper diffusion. For natural lighting a commonly used standard is that windows should extend to the ceiling or nearly so with the amount of glass equal to one-fifth to one-quarter of floor area. "The preferred directions for the source of natural light are in this order—southeast, east, southwest, west. Windows should be so arranged that the light will reach the pupils from the left and behind, and should be on one side of the room only, whenever possi-

¹*Ibid.*, p. 477.

ble.”¹ For artificial lighting at least four lighting fixtures are needed. However, this may depend on the type of fixtures and size of room.

For proper diffusion, window shades of white, or very light tan, made of durable material to cover the entire area of the window should be used. It is best to have these shades adjustable on rollers to allow one to roll upward and the other downward.

Blackboards. Black slate is the best type. Boards should be so placed that no glare will be caused by the windows or lights. Never place them between windows. The height of the blackboard depends upon the size of the pupils using them. Chalk trays should be covered by a light mesh wire. A dustless chalk should be used. Erasers must be cleaned often and only by the janitor.

Water Supply. The water supply of the school must be pure and adequate in amount. Bacteriological tests should be made if there is any question of the purity. It has been suggested by many authorities to have periodic examinations of the water. This is especially important in rural districts. If wells are used they should be so placed that surface drainage and contamination is made impossible. Drinking fountains, if used, should be correctly adjusted for the sizes of the pupils and kept clean at all times. It is better to have the water come from the side of the fountain, so it is unnecessary for the mouth to come in contact with the outlet.

Sanitary coolers are often used in rural schools. In such cases individual drinking cups must be used. The common drinking cup should not be allowed. It is also better to have the water not in contact with the ice, cool water being better than ice water.

Water buckets are undesirable, but, if used, they should be made sanitary by thorough cleansing before each time of using. Water must never be left standing in the buckets. Sun exposure is often of benefit when the bucket is not in use.

¹*Ibid.*, p. 468.

Cleaning the Building. "Cleaning, in general, should be done often enough to keep the school on a sanitary level with the good homes of the community.¹ To have a clean building, the school janitor should perform the following duties:²

1. Clean all floors daily and floors having unusual use twice daily.
2. Dust all furniture every morning and all woodwork weekly. The best duster is the soft cord duster with handle. This duster will give the best results if treated with furniture polish or kerosene, time being allowed for evaporation of the liquid used.
3. Scrubbing should be done during each vacation period, at least.
4. Mopping. Unoled floors should be mopped once or twice a week, scrubbing being substituted at frequent intervals.
5. Oiling floors. A spray is the most economical method of spreading oil both from the point of view of saving of oil and of saving time.
6. Cleaning of glass in doors twice a week. Cleaning of glass in windows; outside, each vacation; inside, monthly.
7. Cleaning of toilets. Toilet rooms are flushed out with hot water from a hose or are mopped after each recess and dismissal period.
8. Cleaning blackboards once a week or oftener, if necessary.
9. Cleaning erasers and chalk trays. Erasers are best cleaned by the vacuum system, twice a week. Chalk trays are cleaned daily and wiped with kerosene.

Seating of Pupils. Poor seating causes fatigue to occur. Adjustable seats and desks are recommended so as to fit each individual. Children with poor vision or hearing should be cared for by seating them to the front of the room. However, these cases should be in the physician's care. The teacher can aid by assisting in this way until adjustments can be made.

For those schools that do not have adjustable seats the following suggestion may be used in the solution of this problem. If the room is equipped with single or double desks screwed to the floor, these can be unscrewed and mounted on runners or skids and thus made adapta-

¹*Ibid.*, p. 490.

²*Ibid.*, pp. 507-508.

ble to a more flexible seating arrangement. The runners should be of hard wood about 1 inch by 4 inches and cut in pieces long enough for a single desk and seat. Care must be taken so that the proper distance between seat and desk will be kept. The distance from the back of seat to the near edge of the desk should not be more than:¹

9 inches for desks numbers 6 and 5.

10 inches for desks number 4.

11 inches for desks number 3.

The desks on runners are easily handled and may be pushed aside in order to have more free floor space for activities.

Care of Gymnasiums, Playgrounds, and Playrooms. All play areas inside the building should be kept clean and sanitary like any other room in the building. Sunlight and fresh air are very essential in such rooms. These rooms need some heat, but it may be lower than in classrooms. The rooms should be free from obstructions. When this is impossible, padding can be used on the obstructions.

Smooth playgrounds free from obstructions are recommended. All papers and debris should be picked up. All apparatus must be kept repaired so that the children will not be injured.

Care of School Busses. Busses should be kept clean and sanitary as any room or any other school equipment. It will be necessary at certain seasons of the year to provide for heating these busses. Precaution should be taken against fumes collecting in the busses.

HYGIENE OF INSTRUCTION

The hygiene instruction is concerned mainly with the mental phase of the child in school. It considers the effects of the educational process upon the health of the child and so controls and adjusts the factors which make

¹*Handbook for Rural Elementary Schools*, Bulletin No. 3, The University of the State of New York Press, Albany. 1936, p. 27.

up the school work that they will not be endangering to the child's health. To do this work thoroughly the home and school must cooperate. When the child leaves home for school he should be in a rested condition and should have been given a sufficiently nutritious breakfast. With this cooperation from the home, the school, in turn, should consider all factors which will better the hygiene of instructing the child.¹

Arrangement of the School Day and Calendar Year.

In an arrangement of the school day and calendar year the following phases should be included:

1. *Length of School Day.* The school day should be arranged that time is given for study, recitation, rest, (all elementary schools shall provide a minimum of four two-minute relaxation periods a day),¹ recitation or play, and lunch. The program should be so arranged that no strain, physical or mental, is on the individual. It is commonly known that children as a rule are more efficient mentally in the morning hours. This knowledge should be kept in mind when arranging programs so that more difficult subjects come in the best working hours for the pupils. Another solution is to intersperse the subjects so that difficult ones are followed by those less difficult.
2. *Teaching Program.* The teacher's program should include a reasonable pupil load in classes, regular rest periods during the day, and a reasonable number of classes. The desirable teaching program will avoid too long hours after school, too much correcting papers at night, and too much clerical work.

School Atmosphere. The school atmosphere should be one of joy and inspiration rather than stern discipline which was so rigidly enforced in the past and often re-

¹See: Physical Education for Primary and Intermediate Grades. P. 165.

sulted in fear. To create such a wholesome atmosphere the teacher is a great influence. This is expressed clearly in this thought: "The wholesome development of the child's nervous system depends upon maintaining his interest in school work, fostering and directing his spirit of inquiry and satisfying his love and need of activity. Substitution and suggestion must take the place of prohibition and repression. The true discipline is the self-control of interest."¹

Individual Attention. Each child should be studied as an individual rather than as a member of a group. It is necessary that the teacher make provision for individual differences according to the physical, mental, and social make-up of the child. Children must be allowed to progress at varying rates of speed. This may not allow whole class promotions, but it will allow better health of the child. Children who tend toward greater progress than that of the average child should be given the privilege of selecting extra work and duties.

Tests, Examinations and Marks. Tests are so often conducted in such a manner as to cause an emotional strain on the child. The school schedule should not contain any formal or drastic means of testing children. Less importance should be put on tests and marks, these should be looked upon as being integrated with the normal school routine. Teachers can help pupils to see that tests and marks are to show their progress instead of disgrace and penalty for failure. Pupils fear this personal embarrassment often brought on by tests and marks. Promotion must be arranged in a manner consistent with good health. Therefore, it is advised that the administering of all tests, examinations, and marks should be conducted in such a manner that no unhygienic conditions may be brought about. They should be in harmony with all the other factors mentioned in the hygiene of instruction.

¹National Society for the Study of Education, *Health and Education*. Ninth Yearbook, Public School Publishing Company, 1910, p. 60.

HYGIENE OF THE SCHOOL STAFF

The hygiene of the school staff is concerned with the health of teachers, janitors, custodians, bus drivers, and the like.

Health of the Teacher. It is important that the teacher's health be kept at a high standard, both for her own personal benefit and for its effect upon the pupils in the school. Every teacher is required to present a certificate of health before being employed in the schools of this state. This requirement is made in Section 11636 which states:¹

Hereafter, every school teacher within the State, shall present a certificate of health from a regularly licensed physician or regularly constituted health authority, stating that said teacher is free from tuberculosis and other contagious diseases, which certification of health shall be presented to the secretary of the school board before a contract shall be entered into between the school board and the teacher making application, and said certificate of health shall bear date no longer than twelve months prior to application. Failure of teachers or school board to comply with the provisions of this law makes them liable to a fine not to exceed one hundred (\$100.00) dollars payable into the general school fund in said county.

Health of Janitors and Custodians. It is important that the janitor's health be kept at a high standard, both for his own personal benefit and for its effect upon the pupils in the school. The janitor should wear a prescribed uniform which is distinctive and attractive. He should never go about in the building or appear before pupils, principals or teachers, unless his face and hands are clean and his hair brushed. He is requested to have his hair cut frequently and to shave daily. He is reminded that he must practice good personal hygiene if his profession is to receive respect from the teachers and pupils.

Health of Bus Driver. The health of the bus driver should be kept at a high standard. Any appearance be-

¹The School Laws of Arkansas, State Department of Education, Little Rock. 1937, p. 63.

fore the principal, teachers or pupils should find him cleaned and dressed neatly. He should always make it a point to practice good personal hygiene.

SCHOOL HEALTH SERVICE

HEALTH EXAMINATION

Purpose. The purposes of the health examination are to determine the physical defects or infectious disease, and to rate the child's physical condition for the purpose of classifying him in the type of physical activity most suited to his condition.¹

Frequency. The ideal standard is for every child in school to receive an annual health examination by a physician. Since most schools are unable to achieve this standard this suggestion by Williams and Brownell¹ is applicable:

In districts where annual health examinations are impossible, it is suggested that the emphasis be placed upon those entering kindergarten or grade one, grade three, grade six, and grade nine; those entering the school system from other districts or any children entering for the first time; and those referred to the physician by nurses and teachers.

It is important that each participant in athletics be pronounced physically fit before he is permitted to participate in any interscholastic athletic event.

Content. The physical examination of each child should be a thorough one. It is recommended that the detailed Arkansas State Board of Health school record form be obtained and the specific health items be checked by the physician.

Records. The form mentioned above can also serve as a health record for the individual pupils. It includes both the health examination record and his health history. A form for every child can be obtained from the County Health Department.

¹J. F. Williams and C. L. Brownell, *The Administration of Health and Physical Education*. Saunders. 1934, pp. 154-155.

THE FOLLOW-UP SERVICE

After the physical defects of the child have been discovered through the health examination, the school has still another important duty to perform, the follow-up service.

Every effort should be made to have the parents present at the time of the examination of the child. If the parents are not present, they should be notified of the child's condition by the use of a form letter which can be obtained from the County Health Department. A short time following the examination a conference should be arranged for the physician, nurse, and teachers to discuss methods of obtaining correction of defects.

Corrective Agencies. There are four agencies that will aid in the process of correcting remediable defects. These are:

1. Correction by the family physician.
2. Aid from the State Department of Public Welfare. The divisions of this department are:
 - a. Crippled Children's Division.
 - b. Child Welfare Division.
3. Aid from local health department. This department gives immunization and dental prophylaxis service.
4. Aid from the various civic and charitable organizations.

Daily Inspection. Every teacher in the elementary grades should conduct a morning health inspection. This should be conducted as the pupils come into the home rooms at the beginning of the school day.

During the inspection the teacher should include the matters of cleanliness and neatness. Points to be noted are: hands, face, nails, hair combed, clothing, handkerchief, shoes cleaned, overshoes and out-of-door clothing removed.

The children should be encouraged to cooperate in the inspection. They may aid in looking for cleanliness

and neatness in the group. Health monitors may be chosen by the class to assist the teacher for a week each. This will aid the teacher and will also help to establish attitudes and appreciation in the children concerning standards of cleanliness.

The teacher should watch for any abnormal condition of the child. The signs and symptoms of the common communicable diseases should be kept in mind by the teachers. The common signs or symptoms of communicable diseases are:¹

Flushed face without normal cause	Frequent coughing
Rash	Sneezing
Pallor	Sore throat
Red and watery eyes	Fever
Swollen glands	Chills
Running nose	Dizziness or faintness
Listlessness	Headache
Vomiting	

Should a child have any of the above symptoms the teacher should call in the school nurse or physician, if one is available. If not, steps should be taken to get in touch with the child's parents and the child's condition explained.

FIRST AID PROVISIONS

Every teacher should possess some knowledge of first aid treatment. By first aid is meant "the immediate, temporary treatment given in case of accident or sudden illness before the services of a physician can be secured."² It is suggested that physicians or nurses give such a course to teachers in the school so that they may be prepared to care for injuries which so often occur during the school day.

¹*Health Education. A Manual of Information for Rural Teachers.* New York State Education Department, Albany. 1931.

²American Red Cross, *First Aid Textbook.* Blakiston. 1933, p. 3.

Equipment. Each school building should be equipped with a first aid cabinet which should be in a convenient place. The American Red Cross suggests the following articles which a good first aid kit must contain:¹

1-inch compress or adhesive in individual packages.

Sterile gauze squares—about 3 in. x 3 in.—in individual packages.

Assorted sterile bandage compresses in individual packages.

Triangular bandages.

Sterile gauze in individual packages of about 1 sq. yd.

Picric acid gauze.

Burn ointment.

Iodine ampules—3½ per cent iodine.

Aromatic spirits of ammonia.

Inelastic tourniquet.

Scissors.

3-inch splinter forceps.

Paper cups.

1-inch and 2-inch roller bandages.

Wire or thin board splints.

Castor oil or mineral oil, for use in eyes. This should be sterile; may be obtained in small tubes.

VACCINATION REQUIREMENTS

The following is a part of the School Laws of Arkansas concerning vaccination requirements:²

Teacher, Employee and Pupils Must Be Vaccinated. No person shall be entered as a teacher, employee or pupil in the public or private school in the State without having first presented to the principal in charge or the proper authorities, a certificate from a licensed and competent physician of the State certifying that the said teacher, employee or pupil has been successfully vaccinated; or in lieu of a certificate of successful vaccination, a certificate showing immunity from having had small-pox. The responsibility for the enforcement of this regulation shall rest equally on each and every member of the school board, the superintendent, principal or teacher in charge and the parent or guardian of the pupil, and each of them shall be separately and individually liable for permitting any violation of this regulation.

¹*Ibid*, pp. 227-228.

²*The School Laws of Arkansas*, State Department of Education, Little Rock. 1931, p. 123.

HEALTH SERVICES AVAILABLE TO SCHOOLS THROUGH
COUNTY HEALTH DEPARTMENTS¹

All schools should avail themselves of the free services with regard to toxins, anti-toxins, immunizations, and diagnostic tests which are offered by the State through the County Health Department.

The health services available to schools vary from county to county, because of necessary differences in administration of county health departments, number of personnel on the staff, funds available, general health problems of the community, social and economic status of the area, and attitude of the local physicians, dentists, and people toward the school health program. Local school personnel, therefore, should contact their county health departments to learn what services can be secured in their school.

The State Health Department does not render direct services to schools. It offers expert advisory and consultative services to the county health departments, and requests for State Health Department services should be made through the county health departments.

ADMINISTRATION

Maintenance of Standards. The administration of the school health program rests with the superintendent who is responsible for the maintenance of high standards in the program. Frequently a superintendent, believing that the members of the health staff have a high degree of technical training which is outside the field of education, feels that his supervision is unnecessary. Such an idea is erroneous. These specialists need not only his assistance in becoming an integral part of the school system, but also his interest and oversight as a stimulus to high standards of work.

¹*The Organization and Activities of the Arkansas State Board of Health.* State Health Department, Little Rock. 1937.

School Hygiene Handbook, Hygiene Series No. 3, Massachusetts Department of Public Health, Boston. 1934.

Mustard, H. S. *Rural Health Practice*. The Commonwealth Fund, New York. 1936.

Coordination of All Parts of the Program. The different aspects of school health work should be coordinated. The following plan is one method of accomplishing this: Two or three times a year the superintendent or the school physicians, school nurse, school dentist (in most instances this means the staff of the county health department), physical education teacher, representative teachers (including home economics teacher if available) and the janitor should meet as a council. The health work can be unified through this council, and it can decide where the emphasis, which necessarily shifts from time to time, should be placed.

Record Keeping and Evaluation of Results. The State Health Department provides the county health departments with school record forms. Examination records compiled by the health department can be made in duplicate, and a copy left with the school on request. These records and their interpretation should be made available to teachers, particularly those teaching physical education.

HEALTH SUPERVISION

Provision of Hygienic Environment. There is scarcely any part of the school environment which does not have a bearing on the health of the children. Before any school board selects a site or has plans prepared for construction, major additions, or repairs to schools, the county health department should be consulted. Rules and regulations of the State Board of Health with reference to the sanitation of schools can be obtained from the county health departments or the State Board of Health. County health departments from time to time make sanitary inspections of schools and report to the school authorities.

Hygiene of Instruction. The health implication of the number and length of recesses, rest periods, the length of the school day, the amount of home study, the arrangement of subjects, etc., has frequently been for-

gotten, and these matters have been arranged to promote an educational scheme rather than the well-being of the pupils. The consultation of county health department personnel is available to school authorities in these matters, particularly in relation to specific children.

Lunches—Mid-Morning and Noon. Public Health nurses will instruct school teachers in the use of the "Hot Jar Method of School Lunch."

HEALTH SERVICE

Preparation of Children For Entrance To School. County health department personnel, physicians, nurses and dentists, will give their services in the conduct of "Summer Round-Ups." These services consist of: providing medical and dental examinations, distribution of literature on feeding and habit training, immunization against smallpox, diphtheria, and typhoid fever, and referral to family physicians and dentists for correction of defects discovered. The department will assist in securing publicity, and in making arrangements for the place of examination and for equipment. Public health nurses will aid Parent-Teacher Associations and other lay groups in the "follow-up" to get correction of defects.

Protection Against Communicable Disease. The State Health Department recommends that schools be kept open in the presence of outbreaks of communicable disease, the single possible exception being the distinctly rural community where the only common meeting ground of the children is in the school house.

In an epidemic, the county health department will provide for daily medical and nursing inspection to locate unrecognized cases, and immediately exclude them from school. Such a procedure is more effective than closing the schools which throws the children to play together without supervision of any kind. In such situations technical advice and consultation is available to the

county health departments from the State Health Department, Division of Communicable Disease Control.

Isolation requirements and periods of exclusion from school for particular communicable diseases will be found in the Rules and Regulations of the State Board of Health.

The county health department will determine whether or not the smallpox vaccination law is being enforced and will vaccinate those who request it. The Department will give typhoid and diphtheria immunization, followed by Schick tests for immunity to diphtheria, upon request.

The health department offers public immunization of school children against smallpox, typhoid fever, and diphtheria. When necessary they will make epidemiological investigations, search for mild and missed cases and carriers of these diseases, and exclude them from school. Since two-thirds of diphtheria deaths occur in children of pre-school age, the school authorities can be of inestimable help in urging that when school children are immunized, younger brothers and sisters be likewise immunized.

The State Health Department provides the following biologicals free to county health departments and to all physicians: smallpox vaccine, typhoid vaccine, and diphtheria toxoid and toxin—anti-toxin for immunization against smallpox, typhoid and diphtheria. The Department also provides diphtheria toxin (Schick test) to determine immunity. It provides for those unable to purchase for themselves:

Diphtheria antitoxin to prevent diphtheria in exposed susceptible individuals.

Diphtheria antitoxin to treat cases.

Rabies vaccine for exposed cases.

Tetanus antitoxin for prevention.

Bismuth, distilled water, neoarsphenamine and sulpharphenamine for treatment of syphilis.

The State Health Department provides the following laboratory examinations:

Nose and throat cultures for diphtheria cases and carriers.

Feces for parasites.

Smears for gonorrhea.
Blood smears for malaria.
Animal heads for rabies.
Blood and spinal fluid for syphilis.
Sputum and pus for tuberculosis.
Blood for tularemia.
Blood for typhoid fever.
Stools for typhoid fever.
Blood for undulant fever.
Public and semi-public water for bacteria and chemical composition.
Spinal fluid for meningitis.

Health departments offer the tuberculin test to all school children whose parents request it. The test is particularly desirable in high school, college, and in individuals who have been contacts to known cases of tuberculosis. The object is diagnosis of early cases of tuberculosis at the time when they respond most favorably to treatment. Of equal importance is the detection of the source of their infection which is often an unsuspected case in the family. Positive reactors are reported to their family physicians for X-ray and for advice and treatment where indicated. Upon request of the County Medical Society the traveling X-ray unit of the State Health Department will visit the county and X-ray free of charge all patients referred by physicians.

Health departments will make malaria surveys in schools upon request. The Malariologist of the State Health Department is available to county health departments for assistance. Blood slides are examined in the State Hygienic Laboratory, and the residences of positive cases are "spotted" on maps. The State Entomologist will then survey epidemic areas for malaria mosquitoes and their breeding places. The Malaria Engineer will then survey the breeding places and recommend the best methods of control with approximate costs.

HEALTH PROMOTION

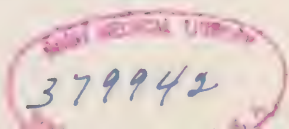
Examinations—Medical, Mental, Dental. There are several different types of examinations available to schools from the health departments. First, a relatively rapid survey or inspection of all pupils for one or two

items, such as smallpox vaccinations evidence, head or body lice, skin eruptions (scabies, impetigo) etc. Second, inspection of children during epidemics. Third, examination of children for readmission to school after communicable disease. This service is particularly available in those centers where the health departments are located, and in such areas their support should be obtained rather than that of the family physician. In distant and rural schools the health department cannot provide such service, and the school should either select one physician or accept the report of all physicians. Fourth, annual school medical examination. The purpose of this examination is not to make a diagnosis, but to discover whether or not the child has any defects which might prevent him from taking full advantage of the opportunities offered in school, or which might make school activities detrimental to his general health. When discovered, it is the duty of the family physician to make the completed diagnosis and give treatment if indicated.

County Health departments are not able to examine every child every year, and it is questionable whether such procedure is worth while. Some selection is usually made except in the case of small rural schools. It is usual to examine the first, third or fourth, and seventh or eighth grades, together with any special children referred by the teacher or nurse, and major athletic groups. Weighing and measuring, and testing of sight and hearing should be done by teachers. Public health nurses will instruct teachers in these procedures. The State Health Department has one audiometer available to county health departments for testing of hearing.

No provision has been made as yet for mental examination of retarded or maladjusted children.

Dental inspections are usually made by the health officer conducting the school examination. In many communities local dentists are willing to donate their services for dental examinations. In fifteen counties the health department has a dental clinic for pre-school and first and second grade children under eight and one-



half years of age and who have dental defects which they cannot afford to have corrected by private dentists.

Medical directors of county health departments will also examine school teachers and janitors upon request.

Correction of Defects. The correction of defects is the real measure of the worth of the examination of school children. Some health workers believe the examination in itself will teach the child the importance of such procedures and lead to the practice of obtaining periodic examinations in later life. The negative teaching involved in examination and re-examination with no action for correction is not likely to impress the child with the importance of regular medical observation.

The State Health Department is not in a position to provide correction of defects as follows: immunization where its lack is counted a defect, dental prophylaxis as already described, and the treatment of certain cases of syphilis and gonorrhea referred to them by private physicians. Therefore, the problem of obtaining corrections of defects must be considered a community problem and all agencies must assume responsibility.

The forces which bring about correction of defects are:

1. *Health Education of the Public at Large.* An informed public is necessary if public support is to be obtained.
2. *Health Education In the Schools.* If the school health education program is to be worthwhile, it must so operate that information imparted to the child will be put into practice by him. One of the most concrete evidences of effectiveness here is the number of defects corrected.
3. Conference by doctor or nurse with the individual child and parent at the time of examination.
4. Community organization.

5. Availability and utilization of remedial facilities: State Tuberculosis Sanatorium, Welfare Department, hospitals, clinics, private physicians, and dentists.

In addition to items 4 and 5, it is recommended that following a school examination the county health personnel meet with lay committee composed of the school teachers and community leaders (suggest the health committee of the Parent-Teacher Association). The health officer or nurse will go over the findings of each examination with this committee which knows who can afford to pay full fees for medical service to their children, who can pay part, and who cannot pay anything at all. The parents of the first group need only be persuaded to take the child to doctor or dentist. Correction of defects in children whose parents are in the second or third group must be assumed as a community responsibility. Before action is taken with the parents of the last two groups the committee must survey local facilities. Perhaps corrections can be made in a county seat hospital or by getting all physicians and dentists to make certain reductions and do a definite amount of free work. In any event such a committee can obtain more corrections in one burst of activity than the health department can obtain by house to house follow-up in a year.

6. Public health nursing follow-up work in individual homes.

Special Classes—Visiting Teacher Work. Frequently special classes are needed for the mentally retarded, undernourished, deafened, eye conservation classes, posture classes, speech defect classes. County health departments will cooperate with the schools in the selection of children for such classes and advise in the conduct of such classes.

HEALTH INSTRUCTION

The foremost services of the health department of schools in this field lies in talks to teachers by medical directors, dentists, nurses, and sanitarians on such subject as prevention and control of communicable diseases, oral hygiene and prophylactic dentistry, eye and ear testing, community sanitation, and other pertinent health matters. The health department will also provide teachers with educational material and references which they can use in health instruction.

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Wood, T. D. and Rowell, H. G., *Health Supervision and Medical Inspection of Schools*. Saunders. 1927.

Suggested References:

Bulletins and Materials from U. S. Office of Education or Superintendent of Documents, Washington, D. C.

Health Education Series:

- No. 4, *Growing Healthy Children*. 1923.
No. 7, *Recognition of Health as an Objective*. 1924.
No. 8, *School Health Supervision*. 1924.
No. 12, *Health of the Teacher*. 1926.
No. 18, *What Every Teacher Should Know About the Physical Condition of Children*. 1936.

Pamphlets:

- No. 5, *State-Wide Trends in School Hygiene and Physical Education*. 1930.
No. 67, *Training of Elementary Teachers for School Health Work*. 1936.
Boy Scout Handbook.

Suggested References by State Boards of Health

- Arkansas State Health Department, *The Organization and Activities of the Arkansas State Board of Health*, Little Rock. 1937.
Massachusetts Department of Public Health, *School Hygiene Handbook*, School Hygiene Series No. 3, Boston. 1934.
Mustard, H. S., *Rural Health Practice*, The Commonwealth Fund, New York. 1936.

V. HEALTH INSTRUCTION

HEALTH INSTRUCTION IN THE PRIMARY AND INTERMEDIATE GRADES

Healthful living is regarded the first concern of education by many authorities. With the expansion of the educational program which has taken place in our schools during the past generation, child-centered education has come to mean much more than the achievement of knowledge and skills in the so-called "tool subjects". More diversified curricula have been introduced, and health education, progressing from formal physiology of the last generation, is aiming to promote practical healthful living as a basis for individual happiness and social welfare.

HEALTH INSTRUCTION IN THE PRIMARY GRADES

In the primary grades major emphasis should be placed upon the formation of useful health habits. Pupils in these grades are not particularly interested in health information. In the first two grades the instructional programs should be largely informal and should be organized around special projects or simple teaching units. In the third grade this activity and training program should be continued, but the pupil should also be held responsible for some health knowledge. A simple text-book on health will be useful here in furnishing a framework upon which the health training program may be built.

SUGGESTED UNIT AREAS

1. General health habits.
2. Care of parts of body: skin, hands, hair, nose, mouth, teeth, eyes and ears.
3. Food and habits of eating.
4. Exercise and Posture.
5. Clothing.
6. Sleep, Rest and Relaxation.

7. Sanitation, First Aid, and Communicable Disease.

SUGGESTED TEACHING PROCEDURES

In the sections which follow suggestions for the development of each of these unit areas are outlined.

1. GENERAL HEALTH HABITS

Objectives. To give the child a general idea of:

1. How to keep the body clean.
2. What foods to eat.
3. Proper habits of waste elimination.
4. Value of out-door play.
5. Need for correction of physical defects.

Activities:

1. Make a list of various foods eaten in the community and their value.
2. Keep charts recording the height and weight of the individual pupil.
3. Dramatize various health activities.
4. Visit the local doctor or health authority for advice on health practices.
5. Visit places where food is processed, prepared, or stored.
6. Explain practices to parents and other members of the community in a school program.
7. Make scrapbooks showing various health practices.
8. Use motion pictures to demonstrate proper health practices.

Outcomes. The outcomes of the health program must be evaluated in terms of the progress of the pupil. Many

of these evaluations should be made in cooperation with parents and the local or school physician or nurse. Pupils should be compared with established norms of their age level on various data such as:

1. Health and weight.
2. Condition of eyes, ears, teeth, nose, and skin.

The extent to which desirable health habits of a pupil have been taught may be determined on the basis of the following criteria:

1. Has a full bath more than once a week.
2. Brushes the teeth at least once a day.
3. Sleeps long hours with the windows open.
4. Drinks three glasses of milk daily, but no coffee or tea.
5. Eats some vegetables or fruit every day.
6. Drinks at least four glasses of water a day.
7. Plays part of every day out-of-doors.
8. Has a bowel movement every morning.
9. Determines weight correctly.
10. Has physical defects corrected as far as possible.

References:

C. L. Brownell, A. G. Ireland, and May H. Siegel, *Friendly Living*. Rand, McNally, 1938, pp. 38, 39-51, 315-144.

Arkansas Co-operative Program to Improve Instruction, *Instructional Guidance and Suggested Materials for Small Schools, Bulletin No. VI*, State Department of Education, Little Rock. 1937, pp. 180-181.

Arkansas Co-operative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools, Elementary Section, Bulletin No. V*, State Department of Education, Little Rock. 1936, pp. 76-80.

C. E. Turner, *Principles of Health Education*, Health, 1939, pp. 179-184.

2. CARE OF PARTS OF THE BODY

Objectives:

1. To develop practices of cleanliness and neatness.
2. To gain an understanding of the prevention of skin diseases.
3. To learn proper care of parts of the body.

Activities:

1. Tabulate various processes involved in care of different parts of the body.
2. Dramatize activities involved in caring for different parts of the body.
3. Allow the local health authorities to give advice on care of the body.

Outcomes. Evidences of pupil growth:

SKIN

1. Washes the face, neck and ears daily.
2. Rinses and dries the skin thoroughly.
3. Uses own towel and wash-cloth and keeps them clean.
4. Provides skin stimulation as by cold bath, dry rub, or sponge bath.

HANDS

1. Washes hands before eating or handling food.
2. Washes hands after using toilet.
3. Keeps nails short and clean.
4. Refrains from biting nails or picking hangnails.
5. Keeps hands and objects away from face.

HAIR

1. Brushes and combs hair daily.
2. Uses own brush and comb and keeps them clean.
3. Washes hair at least once in two weeks.

NOSE

1. Breathes through nose with the mouth closed.
2. Blows the nose gently.
3. Covers coughs and sneezes with a clean handkerchief.
4. Carries a clean handkerchief every day.
5. Avoids putting anything into the nose.

MOUTH AND TEETH

1. Uses own tooth brush.
2. Cares for toothbrush properly.
3. Refrains from biting hard objects.
4. Selects a diet rich in tooth-building material.
5. Visits a dentist twice a year.
6. Eats some food requiring vigorous mastication.

EYES

1. Avoids rubbing eyes.
2. Reads only in proper light.
3. Holds work in correct position and at correct distance.
4. Wears properly fitted glasses when necessary.

EARS

1. Refrains from putting anything in ears.
2. Washes the ears carefully.
3. Gets medical advice when there is trouble with the ears.

References:

C. L. Brownell, A. G. Ireland, and May H. Siegel, *op. cit.*, pp. 8, 38, 111-127, 137-138, 154-156, 165-168.

Arkansas Co-operative Program to Improve Instruction, *op. cit.* Bulletin VI, pp. 183-186.

C. E. Turner, *op. cit.*, pp. 178-790.

C. E. Turner and George B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 113-133.

3. FOOD AND HABITS OF EATING

Objectives:

1. To develop a liking for and use of proper foods.
2. To develop the habit of regular eating.

Activities:

1. Make lists of different foods eaten in the community and their relative values.
2. Dramatize various scenes at home and outside the home where proper food habits may be contrasted with improper ones.
3. Visit the local doctor or other health service to find out what are the proper foods.
4. Visit a large restaurant in the neighborhood to see how food is prepared.
5. Visit a warehouse or granary in the neighborhood to see how food is stored.
6. Visit a local cannery or other food processing establishment.
7. Prepare a program on proper food practices and habits to be presents to the parents and other members of the community.
8. Prepare a scrapbook with pictures and stories relating to proper food practices and habits.
9. Prepare a motion picture program using films from one of the free distribution agencies.

Outcomes. Evidences of pupil growth:

1. Learns to like milk, dark breads, whole grain cereals.
2. Avoids sweets unless at the end of a meal.
3. Eats three regular meals a day.
4. Eats a good breakfast each morning.
5. Avoids exchanging food or eating food picked from the floor.
6. Eats slowly and chews food well.
7. Sits properly at the table.
8. Is calm and cheerful and polite at the table.
9. Uses individual cups.

References:

C. E. Turner, *op. cit.*, pp. 217-219.

C. L. Brownell, A. G. Ireland, and May H. Siegl, *op. cit.*, pp. 3-35, 38, 45-47, 52, 57, 59-68, 132-133.

Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin V, pp. 72-76, 98-105.

C. E. Turner and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 16-19.

_____, *Health*. Heath. 1937, pp. 91-100.

4. EXERCISES AND POSTURE

Objectives:

1. To develop proper habits of standing, walking and sitting.
2. To encourage participation in group games.

Activities:

1. Participate in group games which will help in growth.
2. Visit local health service to find out the value of exercises and proper posture.

3. Demonstrate various group games played at school to parents and other members of the community.
4. Prepare scrapbooks showing proper posture habits.
5. Prepare a motion picture program on exercise and posture, using films from one of the free distribution agencies.

Outcomes. Evidences of pupil growth:

1. Keeps erect when standing, walking or sitting.
2. Avoids twisting the body to the left when writing.
3. Walks without scuffling and with toes pointing straight ahead.

References:

C. L. Brownell, A. G. Ireland, and May H. Siegl, *op. cit.*, pp. 38, 52, 87-90, 128-134.

Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin VI, pp. 183-186.

Health Instruction and Physical Education, Bulletin 12A, Grades I-III, Pennsylvania State Department of Public Instruction, Harrisburg. 1934, pp. 17-18.

5. CLOTHING

Objectives:

1. To develop the habit of keeping clothing clean.
2. To learn to remove extra clothing indoors.
3. To learn to wear the proper clothing in the correct and healthful way.

Activities:

1. Classify different types of clothing and the proper season for wearing them.

2. Write and present a play demonstrating proper habits of wearing clothes, caring for them and the like.
3. Visit a large department or clothing store to secure information on various types of clothing, their use and care.
4. Visit, or secure a visit from, one of the local health authorities for a talk on clothing.
5. Prepare a lecture on clothing for the parents of the school.
6. Make a scrapbook showing proper clothing habits.
7. Present a motion picture on clothing.

Outcomes. Evidences of pupil growth:

1. Keeps clothing as clean as possible.
2. Removes extra wraps indoors.
3. Keeps wraps and clothes neat and in proper place.
4. At night removes and airs all day clothing.
5. Wears loose, comfortable clothing.
6. Adjusts clothing to temperature and weather.

References:

- C. E. Brownell, A. G. Ireland, and May H. Siegl, *op. cit.*, 38, 79-96, 103-105, 109, 135-150.
- Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin VI, pp. 183-186.

6. SLEEP, REST AND RELAXATION

Objectives:

1. To develop regular habits of sleep.
2. To develop proper habits of ventilation and preparation for sleep.

Activities:

1. Determine what preparations should be made for bed.
2. Make a list of good sleep habits including the length of time to be devoted to sleep, type of bed, ventilation and the like.
3. Keep a record of the amount of time devoted to sleep by each pupil.
4. Present a short play demonstrating proper habits for sleep.
5. Determine other times for sleep, rest or relaxation outside of the night time sleep, and their value.
6. Allow the local health authorities to present their point of view as to the value of sleep, rest and relaxation.
7. Visit the local hospital to see how patients are made comfortable for sleep, and what proper habits of bedmaking and the like are.
8. Dramatize or prepare a talk on sleep for parents and other members of the community.
9. Make scrapbooks demonstrating the value of sleep.
10. Prepare or present a motion picture on sleep.

Outcomes. Evidences of pupil growth:

1. Has a regular bedtime.
2. Uses a low pillow or no pillow.
3. Uses sufficient light, warm cover, but not too much.
4. Eats a light evening meal if the heavy meal can be eaten at noon.

5. Avoids excitement just before retiring.
6. Relaxes during rest periods at school or at home.

References:

C. L. Brownell, A. G. Ireland, and May H. Siegl, *op. cit.*, pp. 38, 52.

Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin VI, pp. 183-186.

Objectives:

1. To learn elementary habits of keeping the self, the home, and the environment clean.
2. To develop habits of taking care of small injuries correctly and promptly.
3. To comprehend the necessity of care in avoiding contation.

Activities:

1. Make lists of proper sanitary practices.
2. Determine proper first aid procedure in elementary cases.
3. Discuss the procedure to be followed in the case of communicable disease.
4. Dramatize proper sanitary procedure, first aid, and conduct in the case of communicable disease.
5. Allow the local health authorities to present the facts regarding the need for sanitation, first aid procedure, and conduct in the case of communicable disease.
6. Visit the local hospital to determine proper sanitary practices and first aid procedure.

7. Secure a demonstration of care in case of communicable disease.
8. Explain proper health practices to parents and other members of the community.
9. Make scrapbooks giving proper procedure.
10. Use motion pictures to demonstrate and dramatize proper procedure.

Outcomes. Evidences of pupil growth:

1. Shuts screen doors.
2. Uses a door mat when necessary. _
3. Disposes of household waste and garbage properly.
4. Helps to keep the school and other public toilets clean.
5. Helps to keep the school, home and town clean.
6. Takes care of small cuts and scratches immediately.
7. Avoids those who have contagious diseases.

References:

C. L. Brownell, A. G. Ireland, and May H. Siegl, *op. cit.*, pp. 14-15, 26-30, 102.

Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin V, pp. 80-83.

Health Instruction and Physical Education, Bulletin 12A, Grades I-III. Pennsylvania State Department of Public Instruction, Harrisburg. 1934, pp. 43-44.

SAMPLE TEACHING UNITS

A number of very helpful teaching units on the primary grade level have been developed. If possible, the teacher should have access to the following:

Arkansas Co-operative Program to Improve Instruction, *op. cit.*, Bulletin V.

"Planning and Selecting a Balanced Diet." pp. 72-76.

- "Practicing Health Habits in the Home and at School." pp. 76-80.
- "Using Medical and Hospital Facilities." pp. 80-81.
- "Participating in Measures That Prevent and Control Diseases in Home, School, and Community." pp. 81-83.
- Ruth E. Grout, *Handbook of Health Education*. Doubleday, 1936.
- "Health Habits in General." pp. 55-56.
- "Personal Cleanliness." pp. 56-58.
- "Exercise and Play: Posture." pp. 61-64.
- "Rest, Sleep, and Relaxation." pp. 64-65.
- "Care of Teeth and Mouth." pp. 70-71.
- "Care of Eyes and Ears." pp. 71-73.
- "Stimulants and Narcotics." pp. 73-74.
- "Prevention of Disease." pp. 164-169.
- "A Safe Water Supply." pp. 169-171.
- "Accident Prevention and First Aid." pp. 175-178.
- "A Safe Milk Supply." pp. 180-181.
- "Helpers in Health Protection." pp. 181-183.
- G. D. Brock, *Health Through Projects*. Barnes. 1932.
- "Cleanliness and Morning Inspection." pp. 25-31.
- "Sleep and Rest." pp. 42-49.
- "Fruits." pp. 55-58.
- "Vegetables." pp. 59-64.
- "Eyes." pp. 85-92.
- "Ears." pp. 93-101.
- "Height, Weight, and Growth." pp. 102-113.
- "Posture." pp. 119-128.
- "Teeth." pp. 149-158.
- "Clothing." pp. 159-164.
- "Diseases." pp. 172-182.

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No. 68, *What Every Teacher Should Know About the Physical Conditions of Her Pupils*. 1936.

No. 75, *Safety and Health of the School Child*, 1937.

Health Education Series

No. 5, *Child Health Programs for Parent-Teacher Associations and Women's Clubs*. 1924.

No. 6, *Further Steps in Teaching Health*, 1920.

No. 15, *Suggestions for a Program for Health Teaching in the High School*. 1923.

The United States Department of the Interior, Office of Education, Washington, D. C., also has a catalogue of available health films and plays which can be obtained for the asking.

The Signal Press, Evanston, Illinois, publishes a number of very helpful pamphlets for teachers and for pupils on the evil effects of alcohol and narcotics on the human body. Among those intended for pupils are:

Bake, Margaret, *The Three Partners*.

Crabb, M. R., *Mrs. Gray Bunny's Children*.

Mrs. Gray Bunny's Health Color Book.

Mrs. Gray Bunny's Children Still Learning.

Books for Children.¹

Towse, Anna B., Mathews, Florence E., and Gray, W. S., *Health Stories*. Books One, Two, and Three. Scott, Foresman. 1935.

HEALTH INSTRUCTION IN THE INTERMEDIATE GRADES

Much that has been said regarding the health instruction in the first three grades is applicable to the intermediate grades. Emphasis must still be given to health habits and to health practice. The health habit inspection should be continued with the children taking a greater responsibility for helping in the inspection. At this upper grade level the child has come to the point where he wants to know the "how and why" of doing the things that he is required to do, and a sound program of health education should be built on the expanding interests and needs at this older level. As the child develops in maturity, his desire for information increases and his power to reason and to judge becomes more highly developed.

¹See also bibliography for the Intermediate Grades, pp. 77-79.

SUGGESTED UNIT AREAS

1. Growth and Health.
2. Foods and Habits of Eating.
3. Elimination of Body Waste.
4. Feet.
5. Fresh Air, Ventilation, and Sunshine.
6. Eyes.
7. The Mind and Nervous System.
8. Sanitation.
9. Communicable Diseases.
10. Harmful Substances.

A number of the unit areas outlined for the primary grades should also be developed further in the intermediate grades. Additional suggested unit areas are:

Alcohol and Tobacco.

Stimulants and Narcotics.

Health Handicaps.

Wholesome Personality.

A Safe Water Supply.

Clothing and Shelter.

SUGGESTED TEACHING PROCEDURES

In the sections which follow suggestions for the development of each of these unit areas are outlined.

1. GROWTH AND HEALTH

Objectives:

1. To know that regular gaining of weight is necessary in maintaining good health.
2. To know the importance of having physical defects corrected as soon as possible.
3. To develop the habit of living within one's own limitations.

Activities:

1. Make plans and preparations for weighing day onch each month, and for a measuring day at weighing time in September and in January. Remove sweaters and shoes during weighing. Get the weighing record each month at the same time of day.
2. Keep a class-room weight record. On this record, show the weights of children in your class each month. Keep the record where it can be seen.
3. Write on the blackboard the number of pupils who are known to have defective vision. Change this number whenever a pupils gets his defects corrected. Try to secure one hundred percent corrections.

Outcomes. Evidences of pupil growth:

1. Understands the value of regular gaining of weight.
2. Knows that physical defects should be corrected as soon as possible.

References:

C. E. Turner, *Principles of Health Education*. Heath. 1939, pp. 180-181.

C. E. Turner, and Georgie B. Collins, *Health*. Heath. 1937, pp. 13-21.

C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 8-14.

2. FOODS AND HABITS OF EATING

Objectives:

1. To gain a knowledge of the contribution that several kinds of foods make to our well-being.
2. To know that eating between meals is not a good habit.

3. To develop the habit of being calm, cheerful, and polite at the table.
4. To avoid eating when hurried or excited.
5. To know that milk is the best single food.

Activities:

1. Keep health habit records showing how much milk the children drink every day, and what vegetables are eaten.
2. Have children keep a record for one day and see whether they are getting all of the food substances for repair and growth.
3. Make a number of suitable menus for the different meals of the day mounted on a chart, with picture illustrations, and hang up in the classroom.
4. Discuss habits of eating as between meals, sitting properly at the table, and being calm, cheerful and polite at the table.

Outcomes. Evidences of pupil growth:

1. Knows which foods contribute to growth, repairs and fuel.
2. Knows why milk is the best single food.
3. Knows the general nature of the digestive system.

References:

C. E. Turner, *Principles of Health Education*. Heath. 1938, pp. 182-183.

C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 169-181.

C. E. Turner, and Georgie B. Collins, *Health*. Heath. 1937, pp. 91-100.

3. ELIMINATION OF BODY WASTE

Objectives:

1. To know how to prevent and correct constipation.
2. To know why cathartics should be avoided.

Activities:

1. Discuss the importance of going to the bathroom at a regular time, preferably after breakfast.
2. Emphasize to the pupil that the removal of body waste is more important than the removal of ashes from a furnace. Use a laxative only when necessary, but do not get into the habit.
3. Discuss the use of nature's physics—fruits, vegetables, whole grain, water, and exercise.

Outcomes. Evidences of pupil growth:

1. Knows that proper body elimination is important for good health.
2. Knows how to attain proper elimination of waste.

References:

C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 113-119.

4. FEET

Objectives:

1. To know the general structure of the feet.
2. To learn how to take proper care of the feet.
3. To give proper attention to selection of shoes.

Activities:

1. Ask the pupils to compare their foot prints with a normal foot.

2. Demonstrate the proper way to walk with toes straight ahead.
3. Examine shoes to see whether they have all the requirements of a good shoe.
4. Ask some local dealer to lend you shoe models so that you can have an exhibit of good shoes. Discuss why they are good.
5. When children wear rubbers or rubber boots remove them in the classroom.
6. Ask the children to try some tricks at home of picking up marbles with their toes, and other objects. These are fine exercises and strengthen weak muscles.
7. Show pupils pictures of shoes of different countries. Discuss their good and bad points.

Outcomes. Evidences of pupil growth:

1. Has an appreciation of the value of healthy feet.
2. Realizes that shoes should fit properly.
3. Knows that stockings of proper size are essential for healthy feet.

References:

- C. E. Turner, *op. cit.*, pp. 184-185.
 C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 25-27.
 C. E. Turner, and Georgie B. Collins, *Health*. Heath. 1937, pp. 138-146.

5. FRESH AIR, VENTILATION, AND SUNSHINE

Objectives:

1. To know that sunshine is a valuable aid to health.
2. To know that fresh air is healthful.

Activities:

1. Help the pupils to appreciate the need for good ventilation and by what methods it is secured in their classroom.
2. Discuss what is good ventilation; how it is secured in school, in living rooms, in sleeping rooms, what precautions should be used when gas is used as a fuel; what is the effect of poor ventilation upon ability to study.
3. From this exercise lead to one on the use which the body makes of the air we breathe. The approach to this lesson may be made after an activity period which has been rather strenuous and all have returned to the room breathing more deeply than usual. Ask for the cause.
4. Consider how we breathe, why we breathe, and the purpose of breathing.
5. Secure charts that will help pupils to trace the journey made by the air first to the lungs, then to the heart, and to the cells.
6. Demonstrate the effect of posture, clothing and exercise on breathing.
7. Discuss how sunlight gives the body a vitamin which is necessary for the body.

Outcomes. Evidences of pupil growth:

1. Understands why fresh air is important to our bodies.
2. Realizes the value of sunlight to the body.

References:

C. E. Turner, *op. cit.*, pp. 195-186.

Health Instruction and Physical Education, Bulletin 12B, Grades IV-VI. Pennsylvania State Department of Public Instruction, Harrisburg. 1934, p. 43.

6. EYES

Objectives:

1. To know the general structure of the eye and some provisions made for its protection.
2. To learn the value of expert advice when there is trouble with the eyes.
3. To know the common causes of eye infections.

Activities:

1. Bring a camera to the class and examine the parts. Discuss the various parts and tell what part of the eye each part of the camera is like.
2. Explain to the pupils that the eye cannot focus on near and distant objects at the same time.
3. Using a movable chair at the front of the room, demonstrate sitting in a correct position for reading with the light coming from the proper direction and the book at the correct distance from the eyes.
4. Ask the pupils if all eye defects in the class have been corrected. Make a list of rules for the care of the eyes.
5. Explain the common eye infections.

Outcomes. Evidences of pupil growth:

1. Learns that good eyesight is invaluable.
2. Knows how to avoid the common sources of eye infection.
3. Knows how to arrange for good lighting conditions when using the eyes.
4. Knows the dangers of injury to the eye.
5. Knows to wear properly fitted glasses when necessary.

References:

- C. E. Turner, *op. cit.*, 186-187.
C. E. Turner, and Georgie B. Collins, *Health*. Heath. 1937, pp. 203-214.
Pennsylvania State Department of Public Instruction, *op. cit.*, pp. 30-31.

7. THE MIND AND THE NERVOUS SYSTEM

Objectives:

1. To know that the brain is the center of the nervous system.
2. To know that good habits of mind bring happiness to ourselves and to others.
3. To learn that the condition of the body affects the mind.

Activities:

1. Have a committee from the class visit the local telephone exchange and see how all wires for carrying messages connect with the central office. Let them report to the class about their visit.
2. Discuss the comparison between the telephone system and the nervous system.
3. Have some child tell a story which will illustrate the attractiveness of cheerfulness.
4. Have each pupil add to his scrap book a picture which illustrates the attractiveness of cheerfulness.
5. Let each pupil keep a record of the days in which he is able to keep cheerful and pleasant all day, never once allowing himself to get cross.
6. List several things which are injurious to the mind or nervous system: tea, coffee, tobacco, alcohol, and drugs.

Outcomes. Evidences of pupil growth:

1. Learns to be cheerful and courteous.
2. Knows the value of self control.
3. Knows the things that affect the mind and nervous system.

References:

C. E. Turner, and Georgie B. Collins. *Health*. Heath. 1937, pp. 147-154.

8. SANITATION

Objectives:

1. To know the value of disposing of household waste, and garbage properly.
2. To know how to help keep the school, home, and town sanitary.
3. To know how to prevent the breeding of flies and mosquitoes.

Activities:

1. Discuss: What responsibility should each member of the class take in keeping the park, streets clean?
2. Visit markets, bakeries, and other places where food is sold and have pupils report the methods observed for protecting food from dirt and flies.
3. Work out clean milk project. Let this be a story of the care of milk from the cow to the table, where it is to be served.
4. Assign different groups to make suggestions for keeping the rooms sanitary.
5. Committee from the class may be assigned the duty of investigating the condition of washrooms and toilets in the school. Help them to see their responsibility in helping to keep these places clean.

6. By posters or scrap book have the pupils illustrate as many rules as they can for care of the home.
7. Discuss why food molds and the uses of molds.
8. Let a committee of pupils investigate and report how the community water supply system is made safe.
9. Show pupils the value of sewage disposal system, and things which need to be improved.

Outcomes. Evidences of pupil growth:

1. Is developing habits of cleanliness to make adjustments for better living.
2. Increasingly learns why cleanliness is necessary for the maintenance of good health.

References:

C. E. Turner, *op. cit.*, pp. 187-188.

Pennsylvania State Department of Public Instruction, *Health Instruction and Physical Education*, Grades IV-VI, Bulletin 12B, Harrisburg. 1934, pp. 27, 41-42.

C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. 1932, pp. 204-217.

9. COMMUNICABLE DISEASES

Objectives:

1. To have an understanding of bacteria as the cause of disease, or infection.
2. To regard it as part of one's responsibility to protect other persons from communicable disease from one which is suffering.
3. To observe health practices which help protect one from tuberculosis.
4. To know the value of vaccination and inoculation against communicable diseases.

Activities:

1. After discussion of what the school does to prevent the spread of communicable disease, suggest that the class write a little play on "A Health Project That Paid." Situation: A case of measles in the grade.
2. Procedures used to prevent an epidemic: Formal survey at school, care in eating with clean hands at school and at home, strict observance of quarantine, results secured.
3. Have each pupil write an account of "What My Family Does to Prevent Colds." Discuss the health habits which aid in the battle against tuberculosis.
4. Let pupils make a list of the ways in which everyone can prevent the spread of tuberculosis.
5. Discuss the vaccination for different diseases and how they have been a help to man.

Outcomes. Evidences of pupil growth:

1. Appreciates the value of preventive measures in case of communicable diseases.
2. Knows that good health habits will help prevent disease and build bodily resistance.

References:

- C. E. Turner, *op. cit.*, p. 188.
Pennsylvania State Department of Public Instruction, *op. cit.*, pp. 20, 53.
C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 154-168.

10. HARMFUL SUBSTANCES

Objectives:

1. To know the effect of alcoholic beverages.
2. To avoid cigarettes or other forms of tobacco.

3. To know that tea and coffee should not be used during growing periods.
4. To know that medicines should be taken only as the doctor directs (except home remedies).

Activities:

1. Draw an outline of a big milk bottle on the board. Write a number inside the milk bottle every morning to show how many in the class did not drink tea or coffee on the previous day. Use colored chalk every time the record is one hundred per cent.
2. Discuss what is understood by narcotics; the fact that the government regards stimulants and narcotics as important enough to have laws passed for the control of their production and distribution; the effect of the use of tobacco and alcoholic drinks on boys and girls; the danger of the use of drugs; the advantage of the non-use of narcotics to boys and girls.

Outcomes. Evidences of pupil growth:

1. Knows that the use of tobacco and narcotics is harmful mentally and physically to growing children.
2. Knows the effects of alcohol on the body (1) impairs strength, endurance, and skill; (2) causes mistakes and accidents; (3) excessive use tends to cause rapid deterioration—physical, intellectual, and emotional.

References:

- C. E. Turner, *op. cit.*, p. 188.
- C. E. Turner, and Georgie B. Collins, *Cleanliness and Health*. Heath. 1932, pp. 169-181.
- W. E. Burhard, R. L. Chambers, and F. W. Maroney, *The Body and Health*. Lyons and Carnahan. 1931, pp. 201-219.
- Pennsylvania State Department of Public Instruction, *op. cit.*, pp. 64-65.

Grout L. Donnelly, *Alcohol and the Habit-Forming Drugs*. Williams. 1936.

Alcohol Problems. The National Forum, 850 East 58th Street, Chicago.

Almack, John C., *Facts First on Narcotics*. Pacific Press, 1939, Arkansas Book and Bible House, Little Rock, Arkansas, Distributors.

Almack, John C., *A Clear Case Against Narcotics*. Pacific Press, 1939. Arkansas Book and Bible House, Little Rock, Arkansas, Distributors.

SAMPLE TEACHING UNITS

For those schools where the health instruction is organized on the unit basis and integrated in the core-curriculum or taught with other subjects, the following units are suggested:

Arkansas Co-operative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*, Elementary Section. Bulletin V. State Department of Education, Little Rock. 1936.

"Preventing and Controlling Diseases," pp. 132-136.

"Securing and Maintaining Facilities for Making Healthful Home and School Conditions." pp. 136-137.

"Providing Pure Food and Water Supplies." pp. 137-138.

"Adjusting Clothing to Different Climates." pp. 139.

Arkansas Women's Christian Temperance Union, 521½ Main Street, Little Rock.

"Protecting the 'Dynamo' and 'Steering Gear' of the Human Body."

Ruth E. Grout, *Handbook of Health Education*. Doubleday. 1936.

"Prevention of Disease." pp. 183-187.

"A Safe Water Supply." pp. 187-190.

"Home, School, and Community Cleanliness." pp. 190-194.

"Stimulants and Narcotics." pp. 100-107.

"Care of Eyes and Ears." pp. 100-107.

"Mental Health." pp. 32-44.

G. D. Brock, *Health Through Projects*. Barnes. 1932.

"Ventilation, Air." pp. 15-24.

"Mental Health." pp. 32-41.

"Feet and Footwear." pp. 129-140.

"Quacks and Nostrums." pp. 206-212.

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Bulletins and pamphlets from the U. S. Office of Education or Government Printing Office, Washington, D. C.

School Health Studies:

No. 2, "Child Health School."

No. 3, "What's Who in Health Land."

No. 4, "Growing Healthy Children."

No. 5, "Health Promotion in a Continuation School."

No. 8, "School Health Supervision."

No. 10, "Progress and Prospect in School Health Work."

Health Education Series:

No. 6, "Teaching Health."

No. 17, "Helps for Rural School Nurses."

No. 38, "The Effect of Alcohol and Tobacco."

Bulletins and pamphlets from the Arkansas State Board of Health, Little Rock:

"Malaria."

"Typhoid Fever."

"Tuberculosis."

Sample material from large industrial concerns:

General Foods Corporation, Battle Creek, Michigan.

Pillsbury Flour Mill Company, Minneapolis, Minnesota.

Church and Dwight Co., Inc., 10 Cedar Street, New York.

Materials from Insurance Companies:

Metropolitan Life Insurance Company, New York City.

Southwestern Life Insurance Company, Dallas, Texas.

John Hancock Mutual Life Insurance Company, Boston, Massachusetts.

Kansas City Life Insurance Company, Kansas City, Kansas.

A number of pamphlets published by the National Tuberculosis Association may be obtained from the Arkansas Tuberculosis Association, 444 Donaghey Building, Little Rock.

Pamphlets on the evil effects of alcohol and narcotics from the Signal Press, Evanston, Illinois.

Palmer, Bertha R., *A Syllabus on Alcohol Education*.

Baker, Margaret, *Here's Health to You, Inside Information, and The Best of Health*.

Magazines

American Journal of Public Health, American Public Health Association, 50 West 50th Street, New York.

Journal of Health and Physical Education, American Physical Education Association, Ann Arbor, Michigan.

Hygeia, American Medical Association, 535 Dearborn Street, Chicago.

Child Life, 536 S. Clark Street, Chicago.

*Visual Education Material**Motion Picture Films.*

Arkansas Tuberculosis Association, Little Rock.

Behind the Shadows.

Story of My Life by the Bee.

Let My People Live.

Slides and Filmstrips.

Metropolitan Life Insurance Company, New York City.

Film Strips on Health Heroes

Society for Visual Education, Inc., 100 East Ohio Street, Chicago.

Keystone View Company, Meadville, Pennsylvania.

Arkansas Tuberculosis Association, Little Rock.

Graphic Material.

Arkansas Tuberculosis Association, Little Rock.

Tuberculosis—A Primer of Basic Facts in Pictures.

Landmarks of Progress.

Books for Children

Turner, C. E. and Collins, G. B., *Community Health*, Heath, 1935.

Turner, C. E., *Physiology and Health*, Heath, 1935.

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VI. SAFETY EDUCATION

SAFETY EDUCATION IN THE PRIMARY AND INTERMEDIATE GRADES

The purpose of education is to fit the child to meet new situations. It logically follows, therefore, that as a result of the ever increasing number of accidents caused by the constant change and acceleration of life processes in general, a definite program of safety instruction in our schools becomes a necessity.

OBJECTIVES OF SAFETY EDUCATION IN THE ELEMENTARY GRADES¹

1. To develop within the child a desire to avoid accidents to himself and to prevent accidents to others.
2. To develop habits of personal safety.
3. To develop a consciousness of the responsibility for the safety of others.
4. To develop an understanding of the common causes of accidents and a knowledge of how to meet them.
5. To develop in each individual a freedom from fears and conditions which may restrict his enjoyment of life.

SAFETY INSTRUCTION IN THE PRIMARY GRADES

The school's responsibility for giving safety instruction begins when the child starts to school, and it is through safety instruction that the child should be led to realize that safety does not interfere with the adventure of life but promotes it by substituting a good adventure for a bad one.

Safety education in the primary grades should be integrated with the various subjects, particularly with health and physical education, reading, and the social

¹White House Conference on Child Health and Protection. *Safety Education in the Schools*. Report of the subcommittee on Safety Education. Appleton-Century. 1932, pp. 24-25.

studies. It should acquaint children with the various sources of danger and should establish habits and attitudes which will aid in preventing accidents. The instruction should be so guided that it will develop caution and consideration but not extreme fear and timidity. At this level the formation of desirable safety habits and attitudes which favor safety practices should be emphasized. The pupils should, moreover, be given such essential knowledge within their understanding that will make these practices meaningful.

SUGGESTED UNIT AREAS

The Unit Areas listed below were derived from a survey of the most common causes of accidents among children.¹ They represent certain areas about which the

1. Safety on the Streets and Highways.
2. Safety at Home.
3. Safety at School.
4. Safety in Play and Other Recreational Activities.

SUGGESTED TEACHING PROCEDURES

The materials presented here include suggestions to aid teachers in planning units of work within the areas outlined for primary grades. These materials are organized around the unit areas listed above and include suggestions regarding objectives, activities, evaluation of outcomes, and recommended references.

1. SAFETY ON THE STREET AND HIGHWAY

Objectives:

1. To develop the habit of exercising care in crossing the street and highway.
2. To develop the habit of crossing the street at corners.
3. To develop an attitude of obedience to traffic policemen and traffic signals.

¹C. L. Brownell, G. L. Ireland, and C. F. Towne. *Adventures in Safety*. Rand, McNally. 1939, pp. 30, 102-104, 214-215.

4. To develop the ability to tell one's own name, one's father's name, address, and telephone number.
5. To develop the knowledge of the danger of straying away from the group on excursions.

Activities:

1. Discuss and demonstrate safety practices on the highways and streets, such as, walking, coasting, and skating.
2. Make a floor map of the route from home to school showing the location of signals, crossings, streams, bridges, and other dangerous places to be avoided.
3. Use motion pictures or stereopticon slides to show unsafe practices on the highways and streets.
4. Invite a policeman or a state traffic officer to the school to answer questions about safety practices.
5. Make a safety booklet and collect pictures illustrating safety practices on the highway and streets.
6. Take a walk which necessitates crossing the street and demonstrate cautions to be observed.
7. Write stories or plays illustrating why pupils should know their own name, father's name, address, and telephone number.
8. Discuss and dictate stories about courtesy habits and safety precautions children should observe on trips.
9. Discuss the necessity of keeping together and staying near the teacher when on excursions.
10. Collect and paste on bulletin boards clippings and pictures from magazines and newspapers brought from home which illustrate traffic safety.

Outcomes. Criteria for evaluation:

1. The children practice habits of safety in crossing streets and highways, and manifest a cooperative attitude toward policemen and other safety officers.
2. The pupils cross streets at crossings.
3. The pupils know their father's name, address, and telephone number.
4. The child stays with the group on excursions.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. *The Road to Safety Series*. American Book Company, 1938.

In Storm and Sunshine, pp. 83-99.

Happy Times, pp. 39-60.

In Town and Country, pp. 77-94.

Leaf, Munro. *Safety Can Be Fun*. Stokes. 1938, pp. 34-40, 48.

Safety Education, a Magazine of Good Adventure. Section on "Home Safety for Primary Grades." Education Division, National Safety Council.

Waldo, Lillian M., *Safety First for Little Folks*. Scribner's, 1918.

Roberts, Mildred Miles. *Safety Town Stories*. Lyons and Carnahan. 1938, pp. 13-17, 37-41.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara. *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 36-59.

Brownell, L. C., Ireland, G. A., and Towne, F. C. *Adventures in Safety*. 1939. Rand, McNally, pp. 197-233.

Evans, W. A. and Fry, M. B. *Safety Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 162-245.

2. SAFETY AT HOME

Objectives:

1. To develop the habit of sharing the work to keep the home safe.
2. To develop the habit of orderliness with all play-things.

3. To develop the habits of carefulness in the use of tools and work materials.
4. To develop a knowledge of hazards existing on the farm.
5. To develop habits of safety when around strange animals and livestock.
6. To develop the habit of not touching sewing machines, wringers, washing machines and electric fans.

Activities:

1. Read stories and rhymes about safety practices in the home.
2. Make a home inspection sheet and get pupil's parents to aid in making an inventory of the hazards at home. Use the Junior Red Cross.
3. Make a chart or book to show danger to be avoided at home.
4. Make a collection and exhibition at school of some hazards found at home such as: toys, rusty nails, broken tools and the like.
5. Discuss, tell and dictate stories concerning the things about which to be careful at home: kerosene lamps, matches, firearms, blasting caps, and broken glass.
6. Make a miniature farm on the sandtable and show the dangers to be avoided such as: playing around machinery, livestock, wire fences, walls, stacks of lumber and the like.
7. Visit a farm and observe the safe places to play and the dangers to be avoided.
8. Discuss and demonstrate the proper placement and use of materials, such as: toys, scissors, and other tools, and medicines.
9. Make sandpaper labels for all poisonous medicines.

10. Discuss the use of labor-saving machines in the home and the danger of meddling with these machines whether they are in action or motionless.

Outcomes. Criteria for evaluation:

1. Talk to the parents and observe the behavior of the children. There should be a reduction of accidents among the children in the home.
2. The pupils practice safety habits in handling tools and materials and show an increased interest in cooperating with members of the family in preventing accidents.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

In Storm and Sunshine, pp. 35-52.

Happy Times, pp. 39-60.

In Town and Country, pp. 97-116.

Safety Education, a Magazine of Good Adventure. Section on "Home Safety for Primary Grades." Education Division, National Safety Council.

Waldo, Lillian M. *Safety First for Little Folks*. Scribner's 1918.

Leaf, Munro. *Safety Can Be Fun*. Stokes. 1938, pp. 8-10, 42-46.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara. *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 86-109.

Brownell, C. L., Ireland, G. A., and Towne, F. C. *Adventures in Safety*. 1939. Rand, McNally, pp. 29-91.

Evans, W. A. and Fry, M. B. *Safety Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 24-57, 93-110.

3. SAFETY AT SCHOOL

Objectives:

1. To develop the habits of carefulness when at school.

2. To develop an appreciation of and consideration for the rights of others.
3. To develop a knowledge of simple first aid rules.
4. To develop the habits of carefulness on school buses.
5. To develop the habit of sharing the work of keeping the school safe.

Activities:

1. Organize a safety council and discuss the necessary steps that should be taken to make the school a safer place.
2. Make an inspection trip of the buildings and grounds to observe the hazards existing there.
3. Make a chart or booklet to show the dangers at school.
4. Invite members of the safety patrol to talk to your class about practicing safety at school.
5. Demonstrate the safest way to use the playground equipment.
6. Read stories and rhymes about safe practices of school.
7. Compose safety slogans and post them on bulletin board.
8. Secure safety pledges from the Red Cross office.
9. Plan and take part in fire drills.
10. Demonstrate safe practices at the water fountains. Discuss dangers of pushing a person's head down on the fountain.
11. Make illustrations for posters such as: do not push, walk in halls, keep objects off floor, wait your turn at the fountain, sit down when swinging and the like.
12. Demonstrate the treatment of slight injuries as: cuts, scratches, and bruises.

13. Discuss and demonstrate safe practices on school buses as: Keeping hands inside, remain seated until bus stops, and not interferring with the driver.

Outcomes. Criteria for evaluation:

1. A greater willingness on the part of pupils to observe safety rules at school.
2. An increasing consideration for the rights of others in the building and on the school ground.
3. A knowledge of what to do for simple injuries.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. *The Road to Safety Series*. American Book Company. 1938.

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Brownell, L. C., Ireland, G. A., and Towne, F. C. *op cit.*, pp. 99-123.

Evans, W. A. and Fry, M. B. *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 57-75.

4. SAFETY IN PLAY AND OTHER RECREATIONAL ACTIVITIES

Objectives:

1. To develop the habit of playing safely.
2. To develop an appreciation for the need of playing safely.

3. To gain a knowledge of the danger of throwing sand, gravel, stones, and snowballs.

Activities:

1. Make a survey of the community to find the unsafe places to play.
2. Illustrate safe places to play such as: playgrounds, vacant lots, public parks, fields, door-yards.
3. Discuss water hazards and make illustrations to show danger to be avoided such as: rafts, leaky boats, and the like.
4. Discuss the dangers of large open water containers around home such as: water barrels, fish ponds, and tanks.
5. Learn to swim if facilities are available.
6. Take an excursion to the farm or into the woods and learn to recognize the poisonous plants and dangerous animals.
7. Visit the public park and demonstrate the correct and safe use of playground equipment.
8. Discuss the dangers involved in throwing objects at people, pointing out that such a practice may cause permanent injury, such as: loss of an eye or some teeth.
9. Read stories and books and listen to stories about playing safely.
10. Write and present a play about how to have a happy and safe vacation during Christmas, Labor Day, July Fourth, and Thanksgiving.

Outcomes. Criteria for evaluation:

1. Pupils play in safe places.
2. Pupils avoid throwing sand, gravel, stones, and other objects at playmates and at cars.
3. Pupils have a greater appreciation of the need of playing safely and the scope of their information is enlarged through their participation in the activities suggested.

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Sample Teaching Units

The following units which have been developed are suggested as especially valuable as teaching aids in safety education in the primary grades and will serve as guides in the development of other units in these areas:

Arkansas Co-operative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*, Elementary Section, Bulletin V. State Department of Education, Little Rock. 1936.

"Protecting Life from Accidents in Home, School and Community," pp. 83-89.

"Protecting Our Home and School from Fire," pp. 90-93.

Ruth E. Groat, *Handbook of Health Education*. Doubleday, Doran. 1936. "Accident Prevention and First Aid," pp. 175-178.

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Happy Days, Chap. IV.

Turner, E. C., *The Voyage of Growing Up*, Heath. 1935, pp. 185-203.

Gentles, H. W. and Betts, H. G., *Habits for Safety*, Bobbs-Merrill. 1937. Chap. V.

Loper, Leila, *Safety Stories and Pictures*, Hall and McCreary. 1928.

Posters, and Illustrative Material. Color in safety posters for the primary grades; monthly poster and lesson outline service for all grades; and some excellent playlets are issued by the American Automobile Association, Washington, D. C.

Crayon Poster Sheets. Calendar crayon lessons, monthly poster and lesson outline service; colored posters in great variety, safety plays and pageants are issued by the Education Division, National Safety Council, Chicago.

Motion Picture Films and Film Strips for different phases of Safety are also available from the National Safety Council, Chicago.

Set of Sixty Slides on Accident Prevention, some for the home, may be secured from the National Bureau of Casualty and Surety Underwriters, One Park Avenue, New York.

Posters. Story pictures for classroom use—"The Simple Family," and a monthly poster and outline service is conducted by the National Child Welfare Society, Educational Building, 70 Fifth Avenue, New York.

For Teachers

A complete bibliography of safety materials for schools is issued by the National Safety Council, 20 North Wacker Drive, Chicago.

The following organizations will send materials on safety, free for the asking:

American Red Cross, St. Louis, Missouri.

The National Safety Council, Chicago.

Film Strips, Lantern Slides, Posters, and Plays.

Travelers Insurance Company, Hartford, Connecticut.

Metropolitan Life Insurance Company, New York.

National Recreation Association, 315 Fourth Avenue, New York, *Home Play*, Handbook of Indoor and Backyard Activities.

National Conservation Bureau, New York. *Home Safety and Home Management.*

American Red Cross, Washington, D. C.

Home and Farm Accident Prevention.

Injuries in the Home and on the Farm.

SAFETY INSTRUCTION IN THE INTER-MEDIATE GRADES

Accidents do not just happen; they have a definite cause. Experience shows that safety education as applied to the school pupil is probably the most effective of all safety devices or measures in reducing accidents. It not only gives the message to the most receptive mind, that of the growing child, but it teaches safety to a group, which, because of age and limited experience is most exposed to accidents and it also insures a future generation of safety minded people.

On the intermediate level knowledge and attitudes progressively receive more emphasis, without, however, minimizing the importance of the continuation of desirable safety habits. In these years elementary explanations of the "whys" of the safety habits are given.

SUGGESTED UNIT AREAS

The unit areas listed below were derived from a survey of the most common causes of accidents among children¹. They represent centers about which the suggested activities and materials are to be organized. For most effective teaching, these activities in safety education should be integrated with the various subjects, particularly with health and physical education, reading, and social studies. Definite plans of integration should be worked out to fit the individual needs of the group.

1. Safety on the Street and Highways.
2. Safety at Home.
3. Safety at School.
4. Safety in Play and other Recreational Activities.
5. Fires and Fire Prevention.

SUGGESTED TEACHING PROCEDURES

The materials outlined below should be used in planning units of work within the areas suggested for the intermediate grades. References are also included here

¹C. L. Brownell, A. G. Ireland, and C. F. Towne, *Adventures in Safety*. Rand, McNally. 1939, pp. 30, 102-104, 214-215.

to a number of sample teaching units which can be found elsewhere and which have been developed in greater detail.

1. SAFETY ON THE STREET AND HIGHWAYS

Objectives:

1. To develop a knowledge of traffic regulations and a willingness to observe them.
2. To develop a knowledge of the safety precautions necessary on streets and highways.
3. To develop an attitude of carefulness in crossing streets and highways.

Activities:

1. Make a map of the route from home to school showing the location of the most dangerous intersections in the school district. Discuss the necessity of avoiding them.
2. Illustrate and discuss the proper way to cross the street, the use of safety zones, the dangers of playing in the street, hitching, the danger of running out from behind parked cars, and the necessity of looking both ways before crossing the street or a railroad track.
3. Make a chart or booklet showing the traffic hazards in the community.
4. Show motion pictures or slides illustrating correct safety practices on the highways and streets.
5. Write to the American Automobile Association and to the Metropolitan Life Insurance Company for data showing the number of accidents and deaths caused annually by automobiles.
6. Organize a safety council and keep reports of accidents in the community. Discuss how these might be prevented. The council may present programs which emphasize safety practices on the streets and highways.

7. Discuss why school boy patrols, traffic lights, and traffic policemen are provided.
8. Invite members of the safety patrol to speak to the class about traffic regulations around the school.
9. Organize a bicycle club and formulate a set of rules for safe riding. Invite the policemen or traffic officers to explain traffic regulations for pedestrians, bicycles, wagons, and automobiles.
10. Read and make oral reports related to safety signals on highways, such as curve signs, fences, and grading of curves.
11. Read about the dangers of monoxide gas and discuss the necessity for leaving the garage door open when the motor is running.

Outcomes. Criteria for evaluation:

1. Children observe the safety habits in crossing streets and highways.
2. Pupils know the traffic regulations.
3. Pupils have a greater appreciation of the work of safety officers and demonstrate a willingness to cooperate with others for the sake of safety.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

Around the Year, pp. 95-104.

Here and There, pp. 9-32, 77-106.

Who Travels There? pp. 199-225.

Safety Education, a Magazine of Good Adventure. Education Division, National Safety Council, Chicago.

Turner, C. E., and Collins, Georgie B., Health Series. Heath. 1937.

Health, pp. 215-222.

Cleanliness and Health, pp. 43-46.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 36-59.

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939, pp. 197-233.

Evans, W. A., and Fry, M. B. *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 162-245.

2. SAFETY AT HOME

Objectives:

1. To develop an understanding of the fixed hazards existing in the home and a sense of responsibility for minimizing these hazards.
2. To develop the knowledge that orderliness in the home helps to prevent accidents.
3. To develop an understanding of the danger involved in handling electrical devices.
4. To learn the elementary principles of first aid in treating minor injuries.

Activities:

1. Make an inspection of the home to discover the danger spots, report these to the family, and co-operate in a safety campaign at home.
2. Keep a record of accidents in the home and use it in your home safety campaign.
3. Read about and illustrate the dangers of a disorderly house such as, tripping on rugs and toys; the proper places for pins, needles, scissors, and any other tools.
4. Make a class frieze on wrapping paper showing most frequent accidents that have happened in the home.
5. Search room books, magazines, and libraries for stories on home accidents. Read and discuss these stories, answering questions and listing ways of preventing home accidents.

6. Make safety posters and drawings and display them on the bulletin board.
7. Plan and present a program, composed of reports, demonstrations, safety rules, original songs, plays and games, in an assembly or before a Parent-Teacher group.
8. Discuss danger of leaving large containers of water unguarded such as water barrels, fish ponds, cisterns, and the like.
9. Invite a representative of the electric company to talk to the class about safety in flying kites, the danger of fallen wires, and safe practices to follow in handling electrical fixtures.
10. Discuss the dangers of turning electric lights on or off when standing on a wet floor or in a wet tub; in touching electrical fixtures with wet hands or damp cloth using a worn cord, an electric light, or other electrical appliances; and in leaving an electric iron connected after using it.
11. Demonstrate what to do if one encounters a fallen electric wire or sees someone who is in contact with a live wire—guard the wire and send someone for a policeman or call an electric company official.
12. Demonstrate what to do in a room where gas is escaping. Open doors and windows. Notify an elder person, use a flash light to search for the leak. Report serious leakage to the gas company.
13. Explain conditions likely to cause accidents, such as fatigue, darkness, disorder, and sudden loud noises.
14. Construct a cabinet in which to keep first aid supplies.
15. Visit the home demonstration agent and secure bulletins which tell what to do for insect bites, stings, and poisons.

16. Demonstrate the simple first aid rules in treating burns, cuts, scratches, abrasions and bruises.
17. Check the equipment of the first aid cabinet at school, notify the principal when supplies should be replenished.

Outcomes. Criteria for evaluation:

1. The pupil has gained a satisfactory knowledge of hazards in the home.
2. The child practices methods of safety indicating a mastery of the essential safety information.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

Around the Year, pp. 9-29.

Here and There, pp. 111-160.

On Land and Water, pp. 137-243.

Who Travels There? pp. 233-243.

Safety Education, a Magazine of Good Adventure. Education Division, National Safety Council, Chicago.

Turner, C. E., and Collins, Georgie B., Health Series. Heath. 1937.

Cleanliness and Health, pp. 43-46.

Boy Scouts of America. *Boy Scout Handbook*.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 86-109.

Brownell, C. L., Ireland, A. G., and Towne, C. F. *Adventures in Safety*. Rand, McNally. 1939, pp. 29-91.

National Recreation Association, *Home Play*, Handbook of Indoor and Backyard Activities.

American Red Cross, *Home and Farm Accident Prevention*.

National Conservation Bureau, *Home Safety and Home Management*.

3. SAFETY AT SCHOOL

Objectives:

1. To develop an understanding of the fixed hazards at school and how to meet them.
2. To develop the attitude of personal responsibility in the use of school materials and playground equipment.
3. To develop an attitude of consideration for the rights and safety of others.

Activities:

1. Make a check up of the hazards existing at school, such as, broken glass on the yard, broken playground equipment, fruit peels on walks or floors. Make a list of these hazards on class charts and placards and display them in the rooms. Report these to the school officials and help to eliminate them.
2. Keep a record of accidents that happen at school.
3. Discuss and demonstrate the correct use of playground equipment, the proper way to pass in hallways and on stairs, and safe conduct at the fountain.
4. Illustrate and discuss violations of safety rules, such as, running with pencil in mouth, sharp stick in mouth, sharp stick in the hand, tripping, and pushing.
5. Use motion pictures or slides to show safe and unsafe practices at school.
6. Read stories and rhymes about school safety.
7. Write original songs, limericks, and stories about dangers to be avoided at school.
8. Invite the high school coach to talk to the class about safety in playground activities.

9. Demonstrate safe ways of entering and leaving school buses. Discuss the danger of putting the arms or head out of bus windows, standing while the bus is on motion and the like.
10. Organize a school safety patrol and have members give talks and demonstrations regarding safety at school.

Outcomes. Criteria for evaluation:

1. Accidents among children in the school and community are reduced.
2. Children know the hazards existing at school and are active in trying to eliminate them.
3. Children keep the school grounds free of dangerous objects.
4. Pupils practice habits of personal safety and demonstrate a consideration for the safety of others.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

Around the Year, pp. 211-252.

Here and There, pp. 22-28.

On Land and Water, pp. 265-284.

Who Travels There? pp. 3-34.

Safety Education, a Magazine of Good Adventure. Education Division, National Safety Council, Chicago.

Turner, C. E. and Collins, Georgie B. Health Series. Heath. 1937.

Cleanliness and Health, pp. 43-46.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools.* Beckley-Cardy. 1935, pp. 86-109.

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety.* Rand, McNally. 1939, pp. 99-123.

4. SAFETY IN PLAY AND OTHER RECREATIONAL
ACTIVITIES*Objectives:*

1. To develop a knowledge of measures that will guard against water accidents.
2. To gain a knowledge of the dangers involved in handling firearms.
3. To develop an understanding of precautions necessary in bicycle riding and skating.
4. To develop an understanding of measures that will guard against accidents while camping and hiking.

Activities:

1. Collect pictures from magazines and make a safety at play scrapbook. Pictures of camping, hunting, swimming, hiking, bicycling, skating, and coasting should be used.
2. Read about and discuss the different ways we play and how we may avoid the accidents peculiar to each.
3. Discuss and demonstrate safety in water sports, such as, rules and regulations of bathing beaches, danger of standing in a boat or canoe, diving in shallow water, wading where depth of water is unknown.
5. Make a first aid kit suitable to take on hiking trips and other outings. Discuss and list the necessary items for kit and later check up to see how many have a well equipped kit.
6. Make a list of, and discuss rules to be observed with regard to poison ivy, strange animals, snakes, poisonous insects, camp fire, and drinking water while on hiking and camping trips.
7. Plan and make posters showing the danger of skating in the street.

8. Collect news articles from newspapers about accidents with firearms. Discuss safety with firearms, the necessity of avoiding playing with them and avoiding pointing a gun (even a toy gun) at anyone.
9. Discuss safety measures to be observed in bicycle riding, such as, having good brakes, keeping to right of street on highways, avoiding catching on moving vehicles, avoiding riding with two on a bicycle and the necessity of having lights on the bicycle when riding after dark.
10. Demonstrate the safest route to enter and leave school yard with a bicycle and the necessity of walking and pushing it until the rider is off the school grounds.
11. Organize a bicycle club and make rules to be observed in bicycle riding.
12. Take an excursion to the woods or farm and demonstrate the proper way to make and care for a camp fire. Learn to recognize poisonous plants and avoid tasting unfamiliar berries or herbs.
13. Write stories about a trip to the woods or farm and tell of the safety practices that were observed.

Outcomes. Criteria for evaluation:

1. The pupils understand the dangers to be avoided around water.
2. The pupils understand that all firearms are dangerous and should never be handled by children.
3. The children observe the safety rules while riding bicycles, skating, and playing on the school yard.
4. The children observe safety rules while on a camping trip and display a greater regard for the safety of others.

References:

MATERIALS FOR CHILDREN

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

Around the Year, pp. 69-203, 257-323.

Here and There, pp. 209-283.

On Land and Water, pp. 199-259, 309-342.

Who Travels There? pp. 253-426.

Safety Education, a Magazine of Good Adventure. Education Division, National Safety Council, Chicago.

Turner, C. E., and Collins, Georgie B. Health Series. Heath. 1937.

Cleanliness and Health, pp. 43-46.

Boy Scouts of America, *Boy Scout Handbook*.

MATERIALS FOR TEACHERS

Hyde, Florence Slown and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 109-181.

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939, pp. 161-191.

National Recreation Association, *Home Play*, Handbook of Indoor and Back-Yard Activities.

American Red Cross, *Injuries in the Home and on the Farm*.

5. FIRE AND FIRE PREVENTION

Objectives:

1. To develop a knowledge of the damaging effect of fire on life and property.
2. To develop a knowledge of how to protect one's self in a burning building.
3. To develop a knowledge of how to turn in a fire alarm.
4. To develop an understanding of how fires are caused and how they can be prevented.
5. To develop a knowledge of what to do when one's clothing catches fire.

Activities:

1. Collect and discuss statistical information on the loss of life and property by fire.

2. Read about and discuss the causes of many fires: matches, lighted cigars and cigarettes, bonfires, ashes in inflammable containers, electric irons, candles, starting fire with kerosene, kerosene and gasoline lamps and lanterns, over-heated stoves, rubbish, oily rags and mops, inflammable Christmas decorations, Fourth of July fireworks, and camp fires.
3. Demonstrate how to turn in a fire alarm; when telephoning report street address of fire; when using fire alarm box break the glass, turn key, wait for the fire apparatus to arrive, and then show the location of the fire.
4. Discuss and demonstrate what to do if caught in a burning building: think quickly where the nearest safe exit is, close doors and windows, put wet cloth over mouth and nose, crawl along the floor toward exit using wall as a guide and call for help.
5. Invite a fireman or insurance man to talk to the class on precaution against fires.
6. Visit a fire station and examine the equipment used in fighting fires.
7. Observe fire prevention week by making posters, charts, fire prevention booklets, and giving dramatizations of stories found in readers or pamphlets secured from the National Board of Underwriters, New York City. Write appropriate songs, yells, and original plays for the occasion.
8. Demonstrate what should be done if clothing catches on fire: roll over and over on the ground, wrap up in rug, blanket, coat, or canvas wrap from the head down to prevent breathing flames and smoke.
9. Visit a building under construction and observe measures used to reduce fire hazards.

10. Make a survey of fire hazards at home, at school, and discuss how these can be eliminated.
11. Draw cartoons illustrating the results of carelessness in the presence of fire hazards.
12. Discuss the necessity of orderliness in fire drills, and take part in fire drills.

Outcomes. Criteria for evaluation:

1. The pupils cooperate in assuming and in discharging their responsibilities in removing fire hazards.
2. The pupil is able to demonstrate what should be done in case a fire breaks out at home or at school, what should be done if his clothing catches on fire or if he is caught in a burning building.
3. The pupil assumes responsibility for the prevention of fires.
4. The pupil realizes that all members of the school and community are interdependent and should unite for protection against fire.

References:

Buckley, H. M., and others. The Road to Safety Series. American Book Company. 1938.

Around the Year, pp. 37-70.

Here and There, pp. 37-73.

On Land and Water, pp. 33-85.

Who Travels There? pp. 49-112.

Safety Education, a Magazine of Good Adventure. Education Division National Safety Council, Chicago.

Martin, Frank E., and Davis, George M., *Firebrands*. Little, Brown. 1926.

MATERIALS FOR TEACHERS

Hyde, Florence Slown, and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 59-86.

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939, pp. 36-48.

American Red Cross, *Injuries in the Home and on the Farm*.

Arkansas Co-operative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*. Elementary Section, Bulletin V. State Department of Education, Little Rock. 1936, pp. 83-89, 90-93.

GENERAL SUGGESTIONS TO TEACHERS

Safety is to a large extent a new objective of the school, and, like most new subjects, safety education has not always been given an adequate place in the school curriculum, a curriculum which is already overcrowded. Methods of teaching safety are often vague and their effectiveness undetermined. Adequate instructional materials have, moreover, not been obtained in many instances because the teachers are not aware of the large variety of sources of materials now available.

The Sub-committee on Safety Education of the White House Conference on Child Health and Protection reported in 1932 that schools do not adequately emphasize the better methods of teaching. The Sub-committee listed the following as the most effective methods of teaching safety:¹

1. Having pupils undergo actual experiences in regard to the hazard concerned.
2. Habit forming lessons in having pupils practice safe crossing of streets, safe use of sharp tools and the like.
3. Simulating experiences with hazards through safety games.
4. Demonstrating the causes and results of accidents.
5. Using motion pictures or stereopticon to show dangerous experiences, unsafe and safe practices.
6. Using poster lessons showing safe or unsafe practices.

¹White House Conference on Child Health and Protection. *Safety Education in the Schools*. Report of the Sub-committee on Safety Education. Appleton-Century. 1932, pp. 21-22.

7. Projects involving safety.
8. Story lessons.
9. Dramatizing safety.

SUGGESTIONS FOR EVALUATING OUTCOMES OF SAFETY INSTRUCTION

It is not only desirable but necessary to have some means of measuring success if there is to be any real constructive progress in safety education. There are probably no infallible criteria for determining growth and progress toward the objectives but there are some activities and procedures which will be of assistance in evaluating a program of safety instruction. The list as given below is by no means complete and the teacher should feel at liberty to use any other means of evaluation which in her opinion adequately measures the outcomes of safety instruction.

1. Written tests of safety knowledge.
2. Written tests of safety attitudes.
3. Observation of safety practices.
4. Self checking on safety habits.
5. Rating of others on safety habits.
6. Observation and notation of achievement aims listed for the different levels.

SAMPLE TEACHING UNITS

The following units which have been developed are suggested as valuable aids in developing other units in safety education for the intermediate grades:

Arkansas Cooperative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*, Elementary Section, Bulletin V. State Department of Education, Little Rock. 1936.

"Protecting our Home and School from Fire." pp. 90-93.

"Protecting Life from Accidents." pp. 139-41.

Ruth E. Grout, *Handbook of Health Education*. Doubleday, Doran. 1936. "Accident Prevention and First Aid," pp. 197-201.

BIBLIOGRAPHY

FOR CHILDREN

Buckley, H. M., and others. *The Road to Safety Series*. American Book Company. 1938.

Around the Year, pp. 9-341.

Here and There, pp. 9-283.

On Land and Water, pp. 3-342.

Who Travels There? pp. 3-426.

Safety Education, a Magazine of Good Adventure. Education Division, National Safety Council, Chicago.

Turner, C. E., and Collins, Georgie B., *Health Series*. Heath. 1937. *Health*, pp. 215-222.

Cleanliness and Health, pp. 43-46.

Martin, Frank E., and Davis, Georgie M., *Firebrands*. Little, Brown. 1926.

Boy Scouts of America, *Boy Scout Handbook*.

Bowman, E. C., and Boston, P. F., *Living Safely*. MacMillan. 1938, pp. 134-170.

Cobb, Walter F., *Chalk Talks on Health and Safety*. MacMillan. 1917.

FOR TEACHERS

Hyde, Florence Slown, and Slown, Ruth Clara, *Safety Programs and Activities for Elementary and Junior High Schools*. Beckley-Cardy. 1935, pp. 1-251.

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939, pp. 1-123, 161-233.

Evans, W. A., and Fry, M. B., *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 1-261.

Brock, G. D., *Health Through Projects*. Barnes. 1932, pp. 141-148.

A complete bibliography of safety materials for schools can be obtained from the National Safety Council, 20 North Wacker Drive, Chicago.

The following organizations will send materials on safety, free for the asking:

American Red Cross, St. Louis, Mo.

The National Safety Council, Chicago.

Film Strips, Lantern Slides, Posters, and Playss

Travelers Insurance Company, Hartford, Connecticut.

Metropolitan Life Insurance Company, New York.

National Recreation Association, New York. *Home Play, Handbook of Indoor and Backyard Activities*.

American Red Cross, *Home and Farm Accident Prevention*.

National Conservation Bureau, New York, *Home Safety and Home Management*.

American Red Cross, *Injuries in the Home and on the Farm*.

VII. PHYSICAL EDUCATION

Physical education is that part of the educational program which deals with the physical being. It is concerned primarily with big muscle activities which will develop the individual physically, mentally, and socially.

The general objectives of physical education, as stated in a preceding chapter, include such outcomes as development of organic vitality, neuro-muscular skills, proper ideals and attitudes, and the establishment of desirable habits of conduct.

ACTIVITY PROGRAM IN PHYSICAL EDUCATION FOR THE PRIMARY AND INTERMEDIATE GRADES

All the activities in a program of physical education should be planned in accordance with the characteristics and needs of children and in terms of the objectives which such a program hopes to attain.

OBJECTIVES

The following represents a very complete and unusually satisfactory summation of the specific objectives of physical education in the primary and intermediate grades:¹

1. Prevent handicaps and improve physical efficiency.
2. Improve the individual's posture.
3. Decrease mental strain and improve mental health.
4. Develop symmetry, control and grace of bodily movement.
5. Develop ability to meet physical emergencies.
6. Develop alertness and quick response.
7. Develop an active response to rhythm.

¹N. P. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. Barnes 1936, p. 6.

8. Develop courage, self - control, self - sacrifice, courtesy, kindness, loyalty, obedience, honesty, cooperation and initiative.
9. Create in youth an intelligent and healthful interest in physical activity and give to him a fund of activity material for use in leisure time.
10. Create an interest in the physical welfare of others.
11. Promote the desire for wholesome associations and recreation.
12. Develop the proper spirit toward victory and defeat.
13. Develop good character.
14. Develop the qualities inherent in leadership.

ORGANIZATION AND ADMINISTRATION

Time Allotment: For the minimum time requirement of 120 minutes a week of supervised physical education activities for elementary grades, it is suggested that the major portion of that time to be devoted to organized programs in physical education. The remaining portion of the time, it is recommended, should be used for supervised free play. A suggested time allotment for these two programs is:

10 minutes supervised free play period daily.

25 minutes organized physical education period daily.

This recommended time allotment exceeds the minimum requirements, but to carry out an organized physical education program it is deemed necessary to devote more than fifteen minutes daily to such a program, while it is also necessary to have some time for the supervised free play activities. Wherever possible it is suggested that time allotment be made in administering this program.

It is also recommended that short relaxation periods, which are to be given by the teacher in charge, occur throughout the day.

Supervised Free Play Periods. Recess periods should afford relaxation from the activity of the classroom by providing opportunity for physical exercise in the open air. The activities at this time should be so organized and directed that every child may have an opportunity for safe, vigorous play suitable to his age and strength.

Relief Periods. The relief period should come at any time during the day when the pupils need to relax. They are for the purpose of counteracting fatigue and restlessness due to physical and mental strain. Two minutes should prove to be ample time in which to fulfill this purpose. The windows should be opened and the room completely ventilated during this period.

During the relief period only known exercises should be used with emphasis on :

Posture; relaxation; vigorous and stimulating exercises involving arms, legs, and trunk muscles groups; seasonal mimetics, story plays, and simple games, avoid monotony by too frequent review.)

When the relief period is conducted indoors, coats and sweaters should be removed. A jaunt outdoors in a moderate running pace to a circle on the playground providing opportunity for natural deep breathing before returning to the classroom is a good occasional substitute for any relief activity.

Very helpful additional suggestions on the use of the relief period have also been made by Neilson and Van Hagen¹ and by Turner².

TEACHERS

All of the teachers in charge of physical education in the elementary grades of the state should fully meet

¹*Ibid.*, p. 8.

²C. E. Turner, *Principles of Health Education*. Heath. 1938, p. 175.

the certificate requirements of the State Board of Education. Wherever it is possible to do so, teachers who have specialized in the field of physical education should be employed to conduct this work.

FACILITIES

The facilities for carrying on a physical education program will vary greatly over the state. The facilities which may be used for this work are:¹

The Playground. The playground should be located adjacent to or near the building to permit better supervision and allowance for its use without great loss of time. It should be sufficiently large to permit a definite section to be assigned to each grade. Space should be allotted for the playing of such games as baseball, volley ball, basket ball, soccer and track and field activities by both boys and girls as well as for less active games.

The Classroom. In most elementary schools, the classroom is the only room available for indoor physical education activities. Movable seats are desirable because they can be moved back against the walls, thus allowing for a greater variety of activities. This is particularly advisable for winter use when the playground is not in condition for outdoor activities.

The Corridor. The corridor space in some buildings can be used to advantage for rhythmical activities and some games.

The Playroom. Some schools have a room which can be used for physical education. This may be an extra classroom or basement room which is properly floored, lighted and ventilated. Where this condition exists, the playroom should be available at certain times to all grades.

¹William R. LaPorte, *The Physical Education Curriculum*. Caslon. 1937, pp. 26-27.

CLASSIFICATION OF ACTIVITIES

The following classification of physical education activities is the most widely used:

1. Rhythmical activities.
2. Mimetic and story plays.
3. Hunting games.
4. Relays.
5. Stunts and self-testing activities.
6. Athletic games of low organization.

A description of each of these typical activities is to be found in Neilson and Van Hagen¹.

GENERAL SUGGESTIONS TO TEACHERS

An excellent list of suggestions to teachers will also be found in Neilson and Van Hagen².

SUGGESTED ACTIVITIES IN PHYSICAL EDUCATION

ESSENTIAL REFERENCES

Three books are recommended in which descriptions of the suggested activities may be found. They are as follows:

1. N. P. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. Barnes. 1932.
2. Jessie H. Bancroft, *Games for the Playground, Home, School and Gymnasium*. MacMillan. 1937.
3. Strong Hinman, *Physical Education in the Elementary Grades*. Prentice-Hall. 1939.

KEY FOR SYMBOLS USED IN CITING REFERENCES ON
ACTIVITIES

In the list of references given above on physical education, each book is assigned a number. This book number followed by the page on which an activity listed below can be found in that book is indicated directly after

¹N. P. Neilson and Winifred Van Hagen, *op. cit.*, pp. 35-47.

²*Ibid.*, p. 64.

the name of the activity. The suggested grade placement of each activity is shown at the left of the page.

Example: Dance of Greeting 1-99, 3-133.
means that this rhythmical activity can be found on page 99 in Neilson and Van Hagen, and on page 133 in Hinman. It is best suited for the first grade.

The time allotments indicated in percentages are approximate, merely to indicate the relative importance of the activities. These percentages will vary somewhat from grade to grade—relays receiving emphasis from the second grade on, and athletic games from the third grade on. In many cases the activities included under the several headings will be selected from the subject matter of a given *unit of work or center of interest* around which the entire program of a given grade may be planned. It is very important that the physical activities be integrated with the rest of the school program on a given level¹.

PROGRAM FOR THE PRIMARY LEVEL (GRADES 1-3)

I. Rhythmical Activities 25%

GRADE	NAME	BOOK AND PAGE
Grade One	Dance of Greeting-----	1-99, 3-133
	Did You Ever See a Lassie-----	1-81, 2-343, 3-140
	French Doll -----	1-84
	Hickory Dickory Dock-----	1-89, 3-126
	How D'ye Do My Partner-----	1-85, 3-138
	Itisket, Itasket -----	2-350
	Looby Loo -----	1-86, 2-362, 3-143
	Mulberry Bush -----	1-88, 2-365
	Round and Round the Village-----	1-87, 2-375
	Shoemaker's Dance -----	1-88, 3-136
	Snail -----	2-377, 3-145
	The Camel -----	1-80
	Ducks -----	1-82, 3-119
Grade Two	The Farmer in the Dell-----	1-83, 2-347, 3-159
	A Hunting We Will Go-----	1-100, 2-349, 3-138
	Chimes of Dunkirk -----	1-98, 3-132
	I See You-----	1-108, 3-134
	Let the Feet Go Tramp-----	2-359
	London Bridge -----	1-108, 2-360, 3-142

¹William R. LaPort, *op. cit.*, pp. 26-27.

GRADE	NAME	BOOK AND PAGE
	Marusaki	1-101
	Oats, Peas, Beans.....	1-102, 2-369, 3-161
	Old Roger Is Dead.....	1-103
	Popcorn Magic	1-104
	Pussy Cat, Pussy Cat.....	1-105, 3-162
	Ride a Cock Horse.....	3-128
	Sleeping Beauty	1-106
	Soldier Boy	3-146
	The Muffin Man.....	3-144
	The Swing	1-107, 3-122
Grade Three	Draw a Bucket of Water.....	2-345
	Hot Cross Buns	1-129
	Indian War Dance.....	1-130
	Jolly Is the Miller.....	1-132, 3-160
	Kitty White	2-356
	Little Bo Peep	1-135
	Nixie Polka	1-134, 3-152
	Old Dan Tucker.....	1-135
	Pease Porridge Hot.....	1-127
	Sandal Polka	1-136
	Taffy Was a Welchman.....	1-137
	Ten Little Indians.....	1-138, 3-163
	The Merry Go Round.....	1-139
	Yankee Doodle	1-149, 3-164

II. Mimetics and Story Plays 20%

GRADE	NAME	BOOK AND PAGE
Grade One	Animal Imitations	1-92
	Building Stone Wall.....	1-93
	Ferryboat	1-93
	Follow the Leader.....	1-93, 2-97
	Scooping Sand	1-93
Grade Two	Bell Ringing	1-121
	Climbing Ladders	1-121
	Elevator	1-121
	Snowballing	1-121
	Rooster	1-121
	Toad Jump	1-121
	Weather Vane	1-121
Grade Three	Bicycling	1-145
	Bouncing Balls	1-145
	Cowboys Throwing Lasso.....	1-145
	Furling Sail	1-145
	Seesaw	1-146
	Skating	1-146
	Striking the Anvil	1-146

III. Hunting Games 20%

GRADE	NAME	BOOK AND PAGE
Grade One	Brownies and Fairies_____	1-89, 3-214
	Cat and Mice_____	1-89, 2-71, 3-215
	Chase the Animal Around the Circle_____	1-89
	Crossing the Brook _____	1-90, 2-86, 3-233
	Huntsman _____	1-90
	Jack Be Nimble_____	1-90, 2-137, 3-240
	Magic Carpet _____	1-91, 2-200
	Railroad Train _____	1-91, 3-263
	Run, Rabbit, Run_____	1-91
	Skip Tag _____	1-91, 3-226
	Squirrels in Trees_____	1-91, 2-233, 3-227
	Stop and Start _____	1-92
	What to Play_____	1-92
Grade Two	Back to Back _____	1-95
	Bird Catcher _____	1-95, 2-64, 3-213
	Cat and Rat_____	1-95, 2-72, 3-231
	Changing Seats _____	1-96, 2-75, 3-231
	Double Circle _____	1-96
	Flowers and the Wind_____	1-96, 2-96, 3-264
	Hound and Rabbit_____	1-96, 2-130, 3-329
	Midnight _____	1-97, 2-164, 3-243
	Moving Day _____	1-97
	Puss in a Circle_____	1-97, 2-198, 3-243
	Ring Call Bell_____	1-97, 2-589, 3-264
	Spider and Flies_____	1-98, 3-245
Grade Three	Ball Passing _____	1-123
	Bean Bag Box_____	1-123, 2-391
	Ball Puss _____	1-123, 2-436
	Bean Bag Circle Toss_____	1-123, 2-39, 3-277
	Double Tag _____	1-124
	Exchange Tag _____	1-124, 3-281
	Fire Engine _____	1-124
	Floor Tag _____	1-124
	Flying Dutchman _____	1-124, 3-234
	Follow the Leader_____	1-125, 2-97, 3-218
	Forest Lookout _____	1-125
	The Ocean Is Stormy_____	1-125, 3-289
	Statues _____	1-125, 2-237
	Stoop Tag _____	1-126, 2-239
	Three Around _____	1-126

IV. Relays 15%

GRADE	NAME	BOOK AND PAGE
Grade Two	Aisle Pass Relay_____	1-120

GRADE	NAME	BOOK AND PAGE
	Automobile Relay Race-----	1-120
Grade Three	Around the Row Relay Race-----	1-140
	Bean Bag Passing Relay-----	1-140
	Bean Bag Ring Throw-----	1-140, 2-392, 3-277
	Cross Over Relay-----	1-141
	Eraser Relay -----	1-141
	Relay Race -----	1-141, 3-269
	Stoop and Stretch Relay-----	1-142
	Line Ball -----	2-566, 3-285
	Tag the Wall Relay-----	2-242

V. Stunts and Self Testing Activities . . . 10%

GRADE	NAME	BOOK AND PAGE
Grade Three	Duck Walk -----	1-142, 3-470
	Rabbit Hop -----	1-142, 3-472
	Crab Walk -----	1-142, 3-471
	Human Rocker -----	1-142
	Step Hop -----	1-143
	Dog Run -----	1-143
	Gallop -----	1-143
	Frog Hand Stand-----	1-143
	Forward Roll -----	1-143
	Backward Race -----	1-144
	Measuring Worm -----	3-471
	Cartwheel -----	3-473
	Bear Dance -----	1-145
	Dog Collar -----	1-145
	Chinese Get Up-----	1-145

VI. Athletic Games of Low Organization . . . 10%

GRADE	NAME	BOOK AND PAGE
Grade Three	Boundary Ball -----	1-146, 2-473, 3-323
	Dodge Ball -----	1-146, 2-515, 3-233
	Kick Ball -----	1-147, 2-555, 3-220
	Hand Polo -----	1-147
	Tech Ball -----	1-148

PROGRAM FOR THE INTERMEDIATE LEVEL (GRADES 4-6)

I. Athletic Games of Low Organization . . . 25%

GRADE	NAME	BOOK AND PAGE
Grade Four	Bat Ball -----	1-151
	End Ball -----	1-151, 2-522, 3-412
	Long Ball -----	1-155, 2-569

GRADE	NAME	BOOK AND PAGE
	One Old Cat.....	1-157, 3-424
	Pin Soccer	1-157
	Playground Baseball	1-158, 2-418
	Prisoners' Ball	1-161
	Soccer Dodge Ball.....	1-161, 3-287
	Triangle Ball	1-162
	Volley Tennis	1-162
	Work Up	1-163, 3-424
	Boundary Ball	2-473, 3-323
	Circle Dodge Ball.....	2-496, 3-324
	Square Ball	2-627
	Schoolroom Dodge Ball.....	2-601, 3-335
Grade Five	Basket Ball Toss Up.....	1-193
	Captain Ball	1-193, 2-479, 3-416
	Feather Ball	1-195
	Hand Ball	1-196, 2-541, 3-255
	Progressive Dodge Ball.....	1-198, 2-586
	Rotation Soccer	1-199, 3-395
	Six-Hole Basket Ball.....	1-200
	Shinney	1-201
	Soccer Keep Away.....	1-201, 3-386
	Square Soccer	1-202, 2-612
	Drive Ball	2-521
Grade Six	Bowl Club Ball.....	1-237
	Circle Strike	1-237
	Field Ball	1-238
	Hit or Out.....	1-242
	Net Ball	1-243
	Paddle Tennis	1-243, 2-578
	Pin Basket Ball.....	1-244
	Punt Back	1-245
	Simplified Soccer	1-245
	Two Old Cat.....	1-247
	Balloon Ball	2-433
	Battle Ball	2-466

II. Rhythmical Activities 20%

GRADE	NAME	BOOK AND PAGE
Grade Four	Broom Dance	1-172, 3-166
	Children's Polka	1-173, 3-148
	Comin' Through the Rye.....	1-174
	Dutch Couple Dance.....	1-176
Grade Five	Bleking	1-218, 3-147
	Csebogar	1-220, 3-167
	Finnish Reel	1-221
	The Land of Cotton.....	1-222

GRADE	NAME	BOOK AND PAGE
Grade Six	Pop Goes the Weasel.....	1-222, 3-189
	Practice Polka	1-222
	Ritsch Ratch	1-224
	Virginia Reel	1-225, 3-197
	The Ace of Diamonds.....	1-258, 3-176
	Captain Jinks	1-260
	Gustaf's Skoal	1-261, 3-149
	Little Man in a Fix.....	1-262, 3-192
	Lottie Is Dead.....	1-263, 3-150
	Norwegian Mountain March.....	1-264, 3-179
	Polly Wolly Doodle.....	1-264

III. Hunting Games 15%

GRADE	NAME	BOOK AND PAGE
Grade Four	Barley Break	1-166, 2-60
	Bears and Cattle	1-167
	The Boiler Burst.....	1-167
	Circle Chase	1-167
	Circle Race	1-168
	Come Along	1-168
	Gathering Sticks	1-168
	Inner Circle Ball.....	1-169
	Last One Out	1-169
	Link Tag	1-169
	Oyster Shell	1-169, 2-178
	Poison Seat	1-170
	Simon Says	1-170, 2-307
	Tip Cat	1-170, 2-247
	Two Deep	1-171, 2-246
	Farmer Is Coming.....	2-93
	Home Tag	2-115
Grade Five	Target Toss	2-401
	Ante Over	1-230
	Center Catch Touch Ball	1-231, 2-492
	Circle Kick Ball	1-231
	Center Stride Ball.....	1-231
	Bean Bag Target Toss.....	1-231
	Catch of Fish.....	1-232, 2-73
	Hook On	1-232
	Indian Club Guard.....	1-232
	O'Leary	1-233
	Pass and Change.....	1-233
	Vis-a-Vis	1-234
	Dumbell Tag	2-90
	How Many Miles to Babylon.....	2-130

GRADE	NAME	BOOK AND PAGE
	Japanese Tag	2-145
	Last Man	2-150
	Pebble Chase	2-180
	Triple Change	2-253
Grade Six	Ball Stand	1-268
	Bowling	1-268
	Club Snatch	1-268
	Cross Tag	1-269
	Dare Base	1-269
	Duck on the Rock	1-269
	Elimination Pass	1-270
	Goal Tag	1-270
	Hindoo Tag	1-270
	Keep Away	1-270
	Last Couple Out	1-270, 2-149
	Body Guard	2-68
	Pinch-O	2-181
	Prisoners' Base I	2-191

IV. Individual Athletic Events (self testing) . 10%

GRADE	NAME	BOOK AND PAGE
Grade Five	Balancing Test	1-202
	Baseball Batting for Accuracy	1-203
	Baseball Fly Catching	1-203
	Baseball Throw and Catch	1-203
	Baseball Throw for Accuracy	1-204
	Baseball Throw for Accuracy (for girls)	1-204
	Base Running	1-204
	Basket Ball Foul Throw	1-205
	Basket Ball Throw for Distance	1-205
	Basket Ball Throw for Goal	1-206
	Eskimo Race	1-206
	Half Lever and Toss to Bar	1-207
	Heel Run Race	1-207
	Hobble Race	1-207
	Jump and Reach	1-207
	Legs Lifts	1-208
	Mass Running	1-208
	Potato Race	1-208
	Pull Up	1-209
	Push Up	1-209
	Run	1-209
Grade Five	Running Broad Jump	1-210
	Run and Catch	1-211
	Running Double Broad Jump	1-212
	Running High Jump	1-212

GRADE	NAME	BOOK AND PAGE
	Sit Up	1-212
	Soccer Dribble	1-213
	Soccer Kick for Goal	1-213
Grade Six	Alternate Hop Race	1-248
	Hand Traveling Events	1-248
	Heel Grasp Race	1-249
	Shuttle Broad Jump	1-249
	Skipping Race	1-250
	Soccer Dribble and Kick Goal	1-250, 3-390
	Standing Broad Jump	1-250, 3-484
	Standing High Jump	1-251
	Standing Leap and Jump	1-251
	Hand Ball Drill II	3-255

V. Mimetics and Free Exercises 10%

GRADE	NAME	BOOK AND PAGE
Grade Four	Archery	1-191
	Firecracker	1-191
	Jack in the Box	1-191, 3-240
	Jack Knife Bend	1-191
	Jumping Rope	1-191, 3-82
	Sewing Machine	1-191
	Skating	1-191, 3-121
Grade Five	Chopping Wood	1-234
	Cross-Cut Sawing	1-234
	Pumping Up Bicycle Tire	1-235
	Scythe Swinging	1-235
	Signaling	1-235
	Standing Broad Jump	1-235, 2-612
	Thread the Needle	1-235
	Baseball Batting	1-271, 3-422
	Jump and Clap	1-271
	Locomotive	1-271
	Pulling Up Anchor	1-271
	Crew Driver	1-272
	Steamboat	1-272
	Teamster Warming Up	1-272

VI. Relays 10%

GRADE	NAME	BOOK AND PAGE
Grade Four	Arch Ball Relay	1-163, 3-315
	Attention Relay	1-164, 3-398
	Carry and Fetch Relay	1-164
	Farmer and the Crow Relay	1-164
	Home Base Bean Bag Relay	1-165

GRADE	NAME	BOOK AND PAGE
	Seal Crawl	1-229
	Hurly Burly Bean Bag Relay.....	1-165
	Soccer Relay	1-166
	Stunt Relay	1-166
	Walking Relay	1-166, 3-296
	Corner Spry Relay.....	2-393, 3-409
Grade Five	All-up Indian Club Relay.....	1-214, 2-57, 3-491
	Arch Goal Ball Relay.....	1-215, 2-42, 3-338
	Black Board Relay.....	1-215, 2-66, 3-292
	Bullfrog Relay	1-215
	Kangaroo Relay	1-215, 3-318
	Over and Under Relay.....	1-216, 2-576, 3-346
	Pass and Squat Relay.....	1-216, 3-347
	Rescue Relay	1-216
	Run, Toss and Catch Relay.....	1-217, 3-320
	Shuttle Relay	1-217, 2-220
	Stride Ball Relay.....	1-217, 3-320
	Home Run Relay	2-549, 3-304
	Potato Shuttle Relay.....	2-188
Grade Six	Cap Transfer Relay.....	1-251
	Double Circle Pass Relay.....	1-252
	In and Out Relay.....	1-252, 3-370
	Odd and Even Relay.....	1-252
	Sideward Pass Relay.....	1-253
	Skip Rope Relay.....	1-253
	Zigzag Bounce Ball Relay.....	1-253
	Jumping Relay	2-145, 3-294
	Line Zigzag I and II.....	2-650, 3-272

VII. Tumbling Stunts 10%

GRADE	NAME	BOOK AND PAGE
Grade Four	Frog Hop	1-187
	Stopping Stretch	1-187
	Clown Tricks	1-188
	Coffee Grinder	1-188, 3-474
	Double Forward Roll.....	1-188
	Minuet Row	1-188
	Head Stand	1-189
	Back Spring	1-189
	Leap Frog and Forward Roll.....	1-190, 2-151
	Lathe and Plaster	2-331
	Lunge and Hop Fight.....	2-326
	Wand and Toe Wrestle.....	2-327
	Wriggle Walk	2-334
Grade Five	Turk Stand	1-228
	Heel Click	1-228

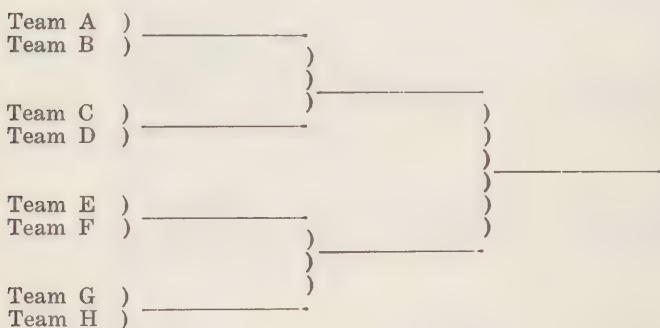
	NAME	BOOK AND PAGE
GRADE	Wooden Man -----	1-229
	Hopping Relay -----	1-165, 3-294
	Horizontal to Perpendicular -----	1-229
Grade Six	Jump the Stick -----	1-230
	Indian Wrestle -----	1-230
	Knee and Toe Wrestle -----	2-326
	Heel and Toe Spring -----	1-254
	Ankle Throw -----	1-254
	Human Fly -----	1-256
	Sack of Wheat -----	1-257
	Triple Roll -----	1-257
	Rubber Neck -----	2-332

APPENDIX

A. SUGGESTED PLANS FOR THE ADMINISTRATION OF COMPETITIVE EVENTS

An important factor in the success of a physical education program and an intramural program is the selection of the most suitable method of organizing competition. The aim should always be to keep as many units, or players, competing as space will permit. By doing this rivalry can be maintained until the end of the season. The space, time, and number of competitors should be given careful consideration before a definite plan of competition is selected.

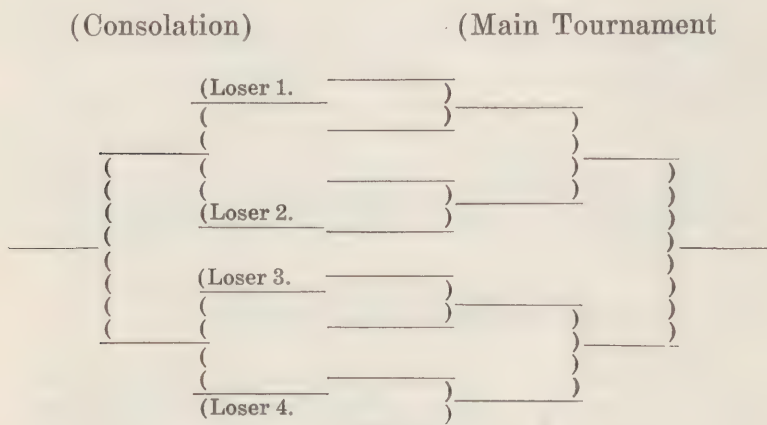
I. Tournament (Single Elimination).



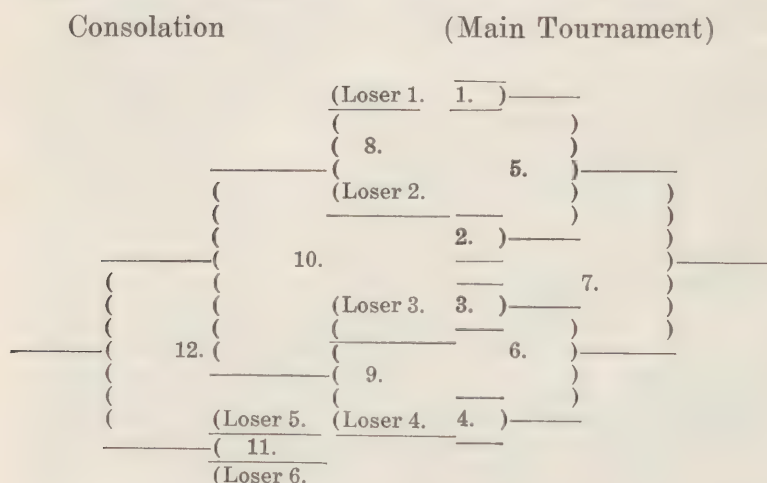
The above plan is the simplest and quickest for competitive team games. In this plan the teams are bracketed in pairs by chance drawings and the winners play each other until all have been eliminated. The bracketing must always be made up on the basis of a perfect power of two: as 4, 8, 16, 32, —. When the number of teams is not a perfect power of two, only enough games are played in the first round to reduce the number of teams to a perfect power of two as shown below.

IV. Tournament (Double Elimination).

1. One plan is to have the losers of the first round of games play Backward in a consolation bracket as indicated below:



2. The other method is to have a continuous consolation to include the losers from all rounds as indicated below:



The numbers indicate the sequence of games or contests.

General Suggestions:

1. Always have a definite time and place for all games and have the schedule of games posted on bulletin board.
2. Interest in a tournament is increased if rankings are made public and posted where all students can see their relative rank.
3. No team or individual should be allowed to compete more than once a day.
4. Entries in all events are encouraged if a yearly total is kept for all groups and a sweepstakes prize given to the highest ranking group.
5. Seeding, or the placing of the best teams or individuals in different brackets, may be adopted advantageously when some knowledge concerning the relative ability of the competitors is available before competition begins.

APPENDIX

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C. S. Blackburn, Assistant State Supervisor of Elementary and High Schools, Little Rock.

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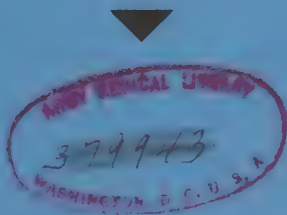
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Course of Study in Health, Safety and Physical Education for Arkansas Schools

Secondary Section



State Department of Education

RALPH B. JONES, *Commissioner of Education*

Little Rock, Arkansas

1943

Course of Study in Health,
Safety and Physical Education
for
Arkansas Schools

Secondary Section

Bulletin No. IX

The Arkansas Cooperative Program
To Improve Instruction

(Second Edition)

DIVISION OF INSTRUCTION

MORGAN R. OWENS, *Director*

State Department of Education

RALPH B. JONES, *Commissioner of Education*

Little Rock, Arkansas

1943

Hygiene, School
Arkansas
Course

Conway Ptg. Co., Conway, Ark.

LETTER OF TRANSMITTAL

The course of study in health, safety, and physical education herewith presented is a second edition of the bulletin published in 1939 in compliance with the law enacted by the General Assembly of 1935 requiring instruction in physical education and in personal and community health and safety in elementary and secondary schools. To meet the urgent need of schools for instructional materials in these important fields, which has been greatly increased by wartime conditions, a second edition of the 1939 bulletin has been printed.

We had neither the time nor the facilities which would be required to revise this course of study; but it is fundamentally sound, and with appropriate adaptations it may be used as the basis of instruction in the areas included in it. Supplementing this course of study two mimeographed bulletins have recently been published by the State Department of Education: *Suggested Physical Activities for A War-Time Physical Fitness Program in Arkansas High Schools* and *Physical Fitness in Arkansas High Schools Through A Physical Education Program*.

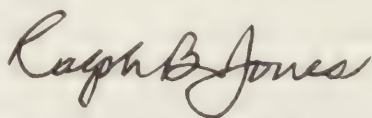
This course of study was prepared in the state curriculum laboratory in the University of Arkansas during the summers of 1938 and 1939, under the direction of Dr. H. G. Hotz, Dean of the College of Education; Dr. M. R. Owens, Director of the Division of Instruction, State Department of Education; W. F. Hall, State Supervisor of Elementary Schools; and C. S. Blackburn, Assistant State Supervisor of Elementary and High Schools. It is another product of the Arkansas Cooperative Program to Improve Instruction, which has received liberal financial aid from the General Education Board.

The cooperative effort of many persons, institutions, and organizations made possible the preparation of this course of study. Members of the staff of the College of Education and the Department of Physical Education in the University of Arkansas, representatives of the State Board of Health, superintendents, principals, classroom teachers, directors of physical education, and county ex-

aminers, whose names appear in Appendix C, comprised the laboratory groups which produced the course of study.

Valuable assistance was contributed by the State Police Department, the Safety Division of the State Highway Department, the Arkansas Automobile Association, the Arkansas Tuberculosis Association, the Women's Christian Temperance Union, and the American Junior Red Cross. The materials produced in 1938 were criticised by the Seminar in Teacher Education at the University, which included representatives of the colleges in Arkansas, the Arkansas Congress of Parents and Teachers, public school officials, and classroom teachers. In the preparation of the materials for publication in tentative form valuable assistance was given by Dr. C. M. Reinoehl, Professor of Education, University of Arkansas, and T. M. Stinnett, State Director of Teacher Education and Certification. This tentative course of study was used in seventy-five centers during 1938-39 and completely revised in the curriculum laboratory in the summer of 1939. The editorial work on the course of study completed in 1939 was done by Dr. H. G. Hotz.

To all those who participated in the preparation of this bulletin, I wish to express my appreciation. The preparation of a course of study in fields so comprehensive is a stupendous undertaking, and those who had a part in its production have rendered distinctive service not only in improving public education in Arkansas but in promoting the health, safety, and wellbeing of our people now and in the future.

A handwritten signature in cursive script, reading "Ralph B. Jones". The signature is written in dark ink and is positioned above the printed name of the State Commissioner of Education.

State Commissioner of Education.

FOREWORD

This course of study is based on the philosophy of the Arkansas Cooperative Program to Improve Instruction. Although certain phases of health, safety, and physical education involve activities which must be assigned definite time allotment in the school day, instruction in these fields should be integrated, whenever possible, with other subjects and activities. A functional program of instruction in health and safety consists of more than the study of subject matter just as an effective course in physical education emphasizes activities broader in scope than mere exercise of the muscles.

In this course of study, health education includes: health services to be rendered by the school and outside health agencies working together; improving conditions and practices in the school which affect the health of pupils and teachers; and instruction in the science of health, with emphasis on basic understandings, proper attitudes toward personal and community health problems, and habits conducive to good health.

Physical education, with emphasis on *education*, is closely related to health education in that it promotes better health of participants; but it is broader in scope than this, providing wholesome recreational activities which are an effective means of attaining important objectives of education.

Safety education is likewise closely related to the lives of pupils and the community. Instruction in safety, therefore, should begin with pupil, school, and community needs. This implies the necessity of integrating safety instruction with other subjects and also direct instruction in safe practices in relation to the environmental hazards which confront pupils in their daily living.

M. R. OWENS,
Director, Division of Instruction.

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I. INTRODUCTION

This bulletin presents a modern program of health, safety, and physical education for the schools of Arkansas. It is to be used as an aid in guiding the teacher in his efforts to organize, develop, and evaluate instructional procedures so that the individual may make desirable adjustments in his way of living and that he may increasingly do his part in securing for himself and others the conditions necessary for abundant health and happiness.

THE NEED FOR HEALTH, SAFETY, AND PHYSICAL EDUCATION

That there is a need for teaching health, safety, and physical education is revealed by the striking evidence of health examinations given in various sections of the country; the health status of school children as shown by numerous school surveys; the recognized debilitating effects of formalized classroom procedures; the economic waste to communities where illness of pupils interferes with school attendance; the limitations placed upon social usefulness because of sickness; the deplorable number of preventable accidents on the streets and highways, at home and at school; the problem of free play and adequate physical activity in an industrialized society; the pressing necessity for free clinical services in both rural and urban centers; and the positive need for construction education in the control of communicable diseases. These are only a few of the more important factors that justify the elevation of health, safety, and physical education to a position of prominence in the school curriculum.

LEGAL REQUIREMENTS IN ARKANSAS

To promote a more comprehensive and effective program of health instruction and physical education in the public schools of Arkansas the following law was passed by the Legislature in 1935:¹

¹*The School Laws of Arkansas*, State Department of Education, Little Rock. 1937, p. 59.

It shall be the duty of the Commissioner of Education, as executive officer of the State Board of Education, to outline a course of physical training for use in the various schools of the state, and for this purpose he shall have the advice and co-operation of the State Board of Health. Said course shall be adapted to the ages, capabilities and health of the pupils in the several grades and departments, and shall include exercises, calisthenics, formation drills, instruction in personal and community health and safety, and in preventing and correcting bodily deficiency. Every pupil in the schools of this state, except such as may be excused by reason of bodily defect or physical deficiency, shall be required to take the course of physical training herein provided; the time devoted to such course to be as prescribed in the outline prepared by the Commissioner of Education. It shall be the duty of the county and city superintendents of schools, boards of directors, and other school officers to see that the provisions of this section are carried into effect.

It is unfortunate that the term "physical training" was designated as the chief component in this law. Although no longer in good repute, this term was undoubtedly intended to include the whole area of health, safety, and physical education. Even as early as 1917 the terms "physical education" and "health" were quite generally used and preferred by many authorities. Continued use of the old term tends to obscure the educational implications in those fields for the layman.

In the beginning it was natural to think of health and physical training as synonymous. Today that concept is rare. Physical education is now regarded as a distinct administrative division of education while health education, including service, supervision, and instruction, has gained recognition as a separate, though interrelated major field. They should be so regarded and promoted.

SCOPE OF A MODERN PROGRAM OF HEALTH, SAFETY, AND
PHYSICAL EDUCATION

A school program in health, safety, and physical education relates to all factors or conditions inherent in the school plant and to all activities and duties of executives, teachers, specialists, janitors, pupils, or others connected with the school that have any bearings, however slight the degree, upon health, safety, recreation, and physical fitness of pupils and teachers.¹

In the preparation of this course of study an effort has been made to bring health, safety, and physical education into general accord with the newer philosophy and psychology of education. Much of the material is organized in the form of large teaching units, and suggestions are made for the further development of broad instructional units in each era. Wherever possible, provision is also made for integrating these materials with other subjects or for incorporating them in the core curriculum in accordance with the curriculum reorganization plans proposed by the State Program to Improve Instruction.²

The materials of instruction and the suggested activities in this course of study are organized and outlined under three major fields:

- I. Health Education
 - 1. Health Protection
 - a. Supervision
 - b. Service
 - 2. Health Instruction
- II. Safety Education
- III. Physical Education and Development

The major field in health education is further subdivided and developed under the sub-fields of Health Supervision, Health Service and Health Instruction, as

¹*Standards in Health and Safety Education*, Department of Public Instruction, Trenton, New Jersey. 1932, p. 3.

²Arkansas Co-operative Program to Improve Instruction, *Tentative Course of Study for Arkansas Schools*. Elementary Section, pp. 60-68; Secondary Section, pp. 29-122. State Department of Education, Little Rock. 1936.

noted above. This horizontal organization has been followed throughout the entire course of study. Vertically, the materials have been organized and adapted to the following maturation levels:—primary grades, intermediate grades, junior high school, and senior high school.

DEFINITION OF TERMS USED

Health Education. Health education is the sum of all experiences which favorably influence habits, attitudes, and knowledge relating to individual, community, and racial health.

Health Supervision. Health supervision involves the provision of a wholesome environment, the organization of a healthful school day, and the establishment of pupil-teacher relationships that give a safe and sanitary school, favorable to the best development and living of pupils and teachers.

Health Service. Health service comprises all those procedures designed to determine the health status of the child. These are his co-operation in health protection and maintenance, to inform parents of the defects that may be present, to prevent diseases and to correct remedial defects.

Health Instruction. Health instruction is that organization of learning experiences directed toward the development of favorable health knowledge, attitudes, and practices.¹

Safety Education. Safety education is that composite of knowledge, habit, and attitude which governs the thought and behavior of the individual in all familiar situations where accidents may occur.²

Physical Education. Physical education is that phase of education which is concerned, first, with the organiza-

¹*Report of Committee on Health Education of the American Physical Education Association, Journal of Health and Physical Education, Vol. V, No. 10 (December, 1934), p. 17.*

²*Standards in Health and Safety Education, Department of Public Instruction, Trenton, New Jersey, 1932, p. 8.*

tion and the leadership of children in big-muscle activities, to gain the development and the adjustment inherent in the activities according to social standards; and, second, with the control of health or growth conditions naturally associated with the leadership of the activities, so that the educational process may go on without growth handicaps.¹

GENERAL PRINCIPLES

1. The school is accepting the fact that education is for the whole child rather than for the mind alone. Thus the child is regarded as an entity, an integrated organism in which all physical, mental, social, and emotional factors—whether of structure or of function—participate in the learning process without differentiation.
2. The concept of education has been extended to include learnings in all aspects of human living, hence, the acceptance of health, safety, and physical education.
3. Health, safety, and physical education are a part of general education and should contribute to it.
4. Health, safety, and physical education are being increasingly recognized as neither subjects nor ends in themselves, but the means to a capacity for living in the sense that the individual is capable of using his powers to the full extent and of enjoying the spirit and adventure of life.
5. The recognition of physical and mental fitness as essential in educational achievement is gaining ground.
6. Behavior rather than knowledge alone, the manner of living rather than the learning of facts about life, are indicative of the new emphasis upon health, safety and physical education.

¹Clark W. Heatherington, *School Programs in Physical Education*, World Book Company. 1932, p. 45.

7. The teacher should exemplify in attitude and behavior the best health and safety practices.
8. Experiences arising out of the pupil's daily life should be used as teaching situations.
9. Opportunities should be provided in which the pupil may experience satisfaction in the repeated practice of health habits, safety habits, and physical exercise.
10. Efforts to correlate the child health activities of schools, organizations, and the medical and dental professions are increasingly more successful.

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II. EDUCATIONAL OBJECTIVES AND CHILD NEEDS IN HEALTH, SAFETY, AND PHYSICAL EDUCATION

The concern of the educative process is the growth and well-being of the whole child. To discharge this responsibility it is essential that educational objectives be clearly stated, that the needs of children be determined and that all areas of the curriculum be integrated to meet these needs. A further implication of this statement is that the physical well-being of each child must be regarded as much a part of the organic development of the whole child as the social, intellectual, and emotional aspects of his behavior.

BASIC PHILOSOPHY OF THE COURSE OF STUDY

In the construction of this course of study, the following concepts in general have been accepted as indicative of the modern educational philosophy of curriculum building:¹

1. A good curriculum is evolved from an analytic study of the child in his environment, carefully considered in the light of social analysis.
2. The curriculum is concerned with more than subject matter; it is a series of planned and guided experiences through which the child learns to live more purposefully and effectively.
3. The good curriculum is never static; it must be dynamic and far-reaching, practical at the present time and yet considerate of future changing conditions.

GENERAL OBJECTIVES OF HEALTH, SAFETY, AND PHYSICAL EDUCATION

The objectives of education must be briefly summarized as the development of an integrated personality with ability to meet life's present and future needs and problems. In stating the general objectives of health, safety, and physical education, it is assumed further that all of these fields of experience are interrelated aspects of personality development.

¹Helen M. Smith and Helen L. Coops, *Physical and Health Education*, American Book Company, 1938, p. 59.

*Objectives of Health Education:*¹

1. To provide a school environment that will be conducive to the best mental and physical development of pupils.
2. To help pupils to recognize their individual conditions and the means of so doing, as far as it is possible.
3. To stimulate pupils in habits and attitudes of vigorous living that will provide the basis for happy and integrated personalities.
4. To acquaint pupils with the sources of knowledge for the conservation and improvement of health and with the methods by which such knowledge may be used effectively.
5. To arouse the interest of pupils in the improvement of present and future health conditions in the home, the family, and the community.

*Objectives of Physical Education:*³

The following statement of the general objective of safety education was formulated at the White House Conference on Child Health and Protection.

The general objective of safety education is the development of such safety habits, safety skills, and safety attitudes as will cause a decrease in number of accidental deaths and injuries to children, produce safer adults for the future, and give to each individual, freedom from fears and conditions that might restrict his enjoyment of life.²

*Objectives of Physical Education:*³

1. To promote optimal vigor among pupils by affording opportunity for wholesome physical activity.

¹*Ibid.*, p. 39.

²Florence Fox, *Safety Education*, U. S. Office of Education, Bulletin, 1932. No. 8, Washington, D. C., p. 29.

³Helen M. Smith and Helen L. Coops, *Op. cit.*, pp. 39-40.

2. To assist pupils in acquiring a wide variety of physical skills that may be practiced in their leisure time.
3. To help pupils to develop the desire for continuing at suitable play activities after school hours.
4. To aid pupils in achieving emotional stability through their experiences in skillfully handled game situations.
5. To provide opportunities for the experiences of pupils in harmonious adjustments to others through activity involving leadership, followership, and co-operation.

NEEDS OF CHILDREN

The most important consideration to be kept in mind by the teacher is the adjustment of the program to the immediate needs of the children. The paramount needs on the elementary and the secondary school levels are:

The Elementary School:

1. A greater development of co-ordination through an increased variety of activities.
2. Promotion of better health through health service rendered by the State Health Department and the employment of a part-time or full-time school nurse.
3. Integrating health instruction and formation of health habits in the regular school program.
4. Developing skills and attitudes, to promote safer living in the home, at school, and in the child's immediate environment.
5. Promotion of social and cultural training through group contacts.
6. Natural expression of fundamental motor rhythm, with or without music.
7. Freedom of movement and the unconscious control of manners.

8. Opportunity to develop the imaginative and self-expressive instincts of primary grade pupils through dramatic, story, and rhythmic plays.

The Secondary School:

1. Knowledge of the parts and functions of the body, simple sex education, and an understanding of the importance of maintaining personal health to promote healthful living in a complex society.
2. Development of safety skills for self-protection and the protection of others as demanded by modern living conditions.
3. Promotion of a physical education program that will:
 - a. Secure the benefits of big muscle activity.
 - b. Assure the development of the motor skills equal to the maturity of the pupil.
 - c. Develop habits of wholesome recreation that will have a thorough carry-over value into after school life.
4. Adoption of adequate testing procedures for pupil classification and the formation of criteria by which to measure pupil progress and growth.
5. Correlation and centralization of the efforts of all co-operating agencies related to the improvement of the physical and health status of the pupil.

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III. ADMINISTERING THE HEALTH, SAFETY, AND PHYSICAL EDUCATION PROGRAM

It has been repeatedly shown that mental growth and physical development are interrelated aspects of personality development. Mental growth is stimulated by physical development, and vice versa. Furthermore, physical growth is greatest during the elementary school period and is generally completed in the "teens." It is, therefore, highly important that health, safety, and physical education should be stressed in the curriculum for all of the grades in the elementary school and in the high school.

PUPIL CLASSIFICATION

The pupils in a school should be classified into groups that are as homogeneous as possible for the purpose of increasing the effectiveness of the individual and group instruction.

Health Instruction. For health instruction, the classification upon the basis of present grade placement is undoubtedly the most satisfactory. This procedure in the classification of pupils will greatly facilitate the integration of health instruction with other subjects taught in a given grade.

Safety Education. Classification here also is generally determined by present grade placements. It is important, however, to correlate safety instruction with all other phases of the school program.

Physical Education. Classification in physical education is necessary to promote better instruction. "Individuals must be classified in all competitive events according to age, height, and weight, or a combination of these factors. Any one of these factors used by itself has been found unsatisfactory."¹ The Neilson-Van Hagen Age, Height, Weight Chart² is recommended for classification purposes. A group of any number may be di-

¹N. P. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. Barnes. 1930, p. 15.

²*Ibid.*, pp. 16-17.

vided into homogeneous groups according to size and age. These groups may be reclassified within themselves, the number of groups to be determined by the number to be classified.

SEX SEGREGATION

There is a growing tendency among leaders in the field to present the recreation and physical education program to mixed groups in so far as the activities will permit. Boys and girls, men and women, live together, go to school together and should learn to play together. Therefore, it is recommended that there be no segregating of the sexes in rythmical activities, and that games, individual or dual, and all other activities with a recreational "carry-over" should be engaged in by mixed groups whenever it is practical. Gymnastics, stunts, tumbling and pyramid building, and team sports (such as soccer, baseball, etc.), above the fourth grade, however, require segregation.

CLASS SIZE

The most desirable class size for health instruction, safety education, and physical education is 25 to 35 pupils.

TIME ALLOTMENT AND CREDIT

All schools should endeavor to meet the requirements concerning time allotments for health, safety, and physical education as indicated below, and should grant credit for the work upon graduation.

ELEMENTARY SCHOOLS

Supervised Play. All pupils in the elementary school shall devote a minimum of 120 minutes a week to supervised physical education and play activities. (It is expected that the major portion of this time shall be devoted to supervised physical education, as outlined in this course of study.) This may be given in two daily periods

of approximately 15 minutes each or one daily period of 25 minutes.¹ In addition to this requirement all elementary schools shall provide a minimum of four two-minute relaxation periods a day.²

Formal Instruction. At least 75 minutes per week shall be devoted to health and safety instruction. All health and safety instruction, whether presented as separate subjects or integrated with other subjects, will be recognized as meeting this minimum 75-minute requirement.

SECONDARY SCHOOLS

All pupils in the secondary school should devote a minimum of 80 minutes a week to directed physical education activities under the direction of school authorities. The program should be sufficiently varied so that all pupils can participate. For this minimum program in physical education a school may grant credit not to exceed one-fourth unit a year.

In addition to the credit in physical education, a total of one-half unit of credit may be granted each year for health instruction and one-half unit to safety education, if this work is offered during separate periods and is not integrated with other subjects.³

SUGGESTED DAILY SCHEDULES

To assist teachers and principals in the administration of this instructional program in the smaller schools, a few sample or typical daily schedules are included.

¹In organized activities the playground or gymnasium should not be overcrowded by having two or three grades occupying this space at the same time.

²See: Physical Education for Primary and Intermediate Grades, p. 165.

³In grades 7 to 12 health instruction and safety education may be integrated with other subjects. If so, credit allowance is taken care of in the other subjects. Health instruction and safety education may also be integrated with physical education for one-fourth unit of credit per year to each of these two subjects, provided the requisite amount of time is allotted to each subject for this work.

ELEMENTARY SCHOOLS
SCHEDULE FOR A ONE-TEACHER SIX-GRADE SCHOOL¹

TIME	GRADE 1	GRADES 2 and 3	GRADES 4, 5, & 6		
8:30 to 8:50		OPENING EXERCISES			
8:50 to 10:15	Reading	ACTIVITY PERIOD Activity Unit: Reading Geography Health	Activity Unit: History & Safety Geography Science & Health		
10:15 to 10:30	Recess: Supervised Physical Education and Play				
10:30 to 11:30	Language and writing				
11:30	Relaxation Period, Two Minutes				
11:32 to 12:00	Word and Phonic Drill		Spelling		
NOON					
1:00 to 2:00	READING				
2:00 to 2:15	Recess: Supervised Physical Education and Play				
2:15 to 3:15	Reading	ARITHMETIC			
Relaxation Period, Two Minutes					
3:17 to 3:45	Monday ART	Tuesday HEALTH AND SAFETY	Wednesday ART	Thursday MUSIC	Friday CLUBS

¹Arkansas Cooperative Program to Improve Instruction, *Instructional Guidance and Suggested Materials for Small Schools*, Bulletin VI, State Department of Education, Little Rock. 1937, p. 19.

SCHEDULE FOR A TWO-TEACHER SIX-GRADE SCHOOL¹

	TEACHER A			TEACHER B		
TIME	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
8:45 to 9:00	OPENING EXERCISES			OPEN EXERCISES		
9:00 to 10:15	ACTIVITY PERIOD Reading and Unit Activity Social Studies and Safety Science and Health			Unit Activity History and Safety Geography and Safety Science and Health		
10:15 to 10:30	Recess: Supervised Physical Education and Play			Recess: Supervised Physical Education and Play		
10:30 to 11:30	Reading			Language and Writing		
Relaxation Period, Two Minutes						
11:32 to 12:00	Free Period	Spelling		Spelling		
NOON				NOON		
1:00 to 2:00	Numbers Seat Work Arithmetic			READING		
2:00 to 2:15	Recess: Supervised Physical Education and Play			Recess: Supervised Physical Education and Play		
2:15 to 3:15	Reading: Phonetics, Skills Writing			Arithmtic		
Relaxation Period, Two Minutes						
3:17 to 3:45	Mon. Art & Safety	Tues. Health & Safety	Wed. Art & Safety	Thurs. Music & Safety	Fri. Clubs & Safety	Mon. Health & Safety

¹*Ibid.*, p. 20.

SECONDARY SCHOOLS

Junior High School. It is recommended that three periods of 40 minutes each per week be used for physical education. These periods shall be long enough to provide for showers and dressing where facilities are available.

Senior High School. It is recommended that two periods of 40 minutes each per week be used for physical education. These periods shall be long enough to provide for showers and dressing where facilities are available.¹

If health and safety education are integrated with physical education it is recommended that five periods of 40 minutes each per week be used.

Example: 40 Minutes Periods	Monday Physical Education	Tuesday Health Instruction	Wednesday Physical Education	Thursday Safety Education	Friday Physical Education
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¹In a four-year high school the time allotment shall be the same for the ninth grade as for the tenth, eleventh and twelfth grades.

SUGGESTED SCHEDULE FOR A THREE-TEACHER SIX-YEAR
HIGH SCHOOL¹

TIME	TEACHER A		TEACHER B		TEACHER C	
8:30 to 9:10	English 9		Social Science and Safety		Mathematics 7	
9:10 to 9:50	English 10		Social Science and Safety 7 or 8		Mathematics 9	
9:50 to 10:30	Physical Edu. M. W. F. Grades 7, 8, and 9 Tu. Th. Grades 10, 11, and 12		Study M. W. F. Grades 10, 11, and 12		Study Tu. Th. Grades 7, 8, & 9	
10:30 to 11:15	Foreign Language 9		Science and Health 11 or 12		Mathematics 8	
11:15 to 12:00	Foreign Language 10		Laboratory		Mathematics 10 or 11	
NOON						
1:00 to 1:30	Monday Activities	Tuesday Home Room	Wednesday Art-Music		Thursday Clubs	Friday Assembly
1:30 to 2:15			Social Science and Safety 9 or 10		Science and Health 7 or 8	
2:15 to 3:00	English 11 or 12		English 7		Science and Health 9 or 10	
3:00 to 3:45			English 8		Laboratory	

¹*High School Reorganization.* State Department of Education, Little Rock, 1929, p. 30.

In many schools it will be more profitable to integrate health and safety education in the core curriculum. For a Suggested Schedule for a Four-Teacher Six-Year High School, One Teacher Core see: Arkansas Cooperative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools, Secondary Section.* Bulletin No V. State Department of Education, Little Rock. 1936, p. 173.

APPARATUS AND EQUIPMENT

The apparatus and equipment necessary for a given school will naturally depend upon the extensiveness of the program undertaken by that particular school. Also the program undertaken must be adapted to the physical proportion and possibilities for indoor and outdoor space to carry on a program of physical education.¹

*Suggestions for Elementary School Playground and
Gymnasia*

1. Playground Apparatus and Equipment

Permanent	Seasonal
(1) Sand Bins (10x15')	(1) Playground Balls and Bats
(2) Slides	(2) Basketballs
(3) Springs (low)	(3) Volley Balls and Nets
(4) Jumping Standards	(4) Long Jumping Ropes
(5) Courts and Diamonds	(5) Short Jumping Ropes
(6) Jumping Pits	(6) Sport Balls (rubber)
(7) Giant Stride	(7) Horse Shoes (junior size)
(8) Tape Line	(8) Bean Bags
(9) Whistle	(9) Footballs (touch ball)
(10) First Aid Kit	
(11) Stop Watch	

2. Gymnasia Apparatus and Equipment

Permanent	Seasonal
(1) Scales	(1) Health Balls (various sizes)
(2) Climbing Ropes	(2) Volley Balls and Nets
(3) Chinning Bars	(3) Basketballs
(4) Gym Mats (4x6')	(4) Indoor Baseballs and Bats
(5) Stall Bars	(5) Bean Bags
(6) Adjustable Balance Ladder	(6) Jumping Ropes (long)
(7) Floor Marked for Various Games	(7) Jumping Ropes (short)
(8) Stop Watch	
(9) Ball Inflator	
(10) First Aid Kit	
(11) Whistle	

¹Many schools do not have indoor space for physical activities. It is recommended that such schools take an oversize classroom, remove the seats, place benches along the halls, and use it for this purpose.

SUGGESTED FOR SECONDARY SCHOOL PLAYGROUND
AND GYMNASIA

1. Play Areas and Courts

- | | |
|-----------------------|--------------------------|
| (1) Handball Courts | (4) Touch Football Field |
| (2) Softball Diamond | (5) Basketball Court |
| (3) Volleyball Courts | (6) Tennis Court |

2. Apparatus and Equipment

- | | |
|--------------------------|------------------|
| (1) Handballs | (5) Footballs |
| (2) Volleyballs and Nets | (4) Basketballs |
| (3) Softballs and Bats | (6) Tennis Balls |

EXTRA CURRICULAR ACTIVITIES

Many extra - curricular activities grow out of a Health, Safety, and Physical Education program. These extra-curricular activities may be used to serve as a valuable means in creating interest in a school's program.

Suggested Activities:

1. Health:
 - Health Council
 - Health Clubs
2. Safety:
 - Junior Red Cross
 - Junior Safety Patrol
 - Junior Safety Council
3. Physical Education:
 - Intramurals
 - Interscholastic Athletics
 - Hiking Clubs

MEASURING PUPIL GROWTH AND EVALUATING PUPIL
PROGRESS •

Instruction in any field is valid to the extent that needs and results are objectively determined. Although complete and scientific procedures are not as yet available for measuring progress in health, safety, and physical education there are means and tests of sufficient worth to warrant adoption. Many ingenious devices have

been invented for measuring and checking health and safety practices and objective knowledge tests are extensively used. The essential thing however is to stress improvement in the activities rather than the acquisition of knowledge alone.

Health Instruction. Of all the tests designed to measure an individual's knowledge of the various phases of healthful living, the Gates-Strang Health Knowledge Tests¹ are used most extensively. This test can be used in grades three through twelve and two forms are available. It is recommended that Form B be given at the beginning of a term and Form A at the close of the term. By following this procedure the progress of a class or an individual can be readily determined.

Improvement in health habits and practices may be determined by careful observations in the classroom or lunchroom and through questionnaires to parents.

Safety Education. No standardized tests have been developed in the field of safety education. Surveys have been made of accident situations in school, on the playground, in the gymnasium on school busses on the way to school and in homes. It is believed that this has aided in reducing the number of child fatalities.

Physical Education. "Measurement in physical education has two major purposes: (1) the improvement of instruction, and (2) the improvement of the professional program. Only by the accumulation of accurate information about the pupil can we hope to contribute to his individual needs, help him with his difficulties, or diagnose his strengths and weakness."² To carry on an effective program in physical education some form of test is desirable.

¹A. T. Gates and Ruth Strang, *Health Knowledge Tests*. Bureau of Publications, Teachers College, Columbia University, New York. 1925.

²N. P. Neilson and F. W. Cozens, *Achievement Scales in Physical Education Activities for Boys and Girls in Elementary and Junior High School*. California State Department of Education, Sacramento. 1934, p. 18.

able. Neilson and Cozens¹ list thirty-three events that have been standardized. These events have been classified by the age, height, weight method and are carefully explained as to procedure in giving the test. Irrespective of the equipment possessed by the school, a teacher can find enough events in the list to make a test for her physical education class. The following are suggested tests for girls and for boys:

Girls

1. Run 50 yards.
2. Basketball throw for goal.
3. Basketball throw for accuracy.
4. Basketball throw for distance.
5. Potato Race.
6. Jump and reach.
7. Base running.

Boys

1. Run 75 yards.
2. Basketball throw for goal.
(Special event)
3. Running high jump.
4. Base running.
5. Baseball throw for accuracy.
6. Baseball throw for distance.
7. Potato race.
8. Push up.
9. Standing broad jump.
10. Soccer kick.

All of these events can be conducted with the following equipment: Two small blocks of wood, basketball, playground baseball, jumping standards, measuring tape, stop watch, and soccer ball. Standard scores for all events are given in the event scales of Neilson and Cozens.²

Achievement tests should be given at the beginning of the school year and again at the end of the semester. The difference in achievement will determine the progress made by each pupil. This score should be used as one determining factor in assigning marks in physical education.

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¹*Ibid.*

²*Ibid.*

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IV. HEALTH PROTECTION: HEALTH SUPERVISION AND HEALTH SERVICE

Healthful school living should be one of the goals for all educative agencies. To arrive at this goal the health supervision and health service programs should be functional in every school. These programs aim to protect the individual's health through healthful surroundings and to improve the health status of each pupil so that he will be better able, both physically and mentally to take part in the educative process.

Many agencies, both national and local, offer their cooperation to such programs. No school need go without some means for carrying on this work.

LEGAL PROVISIONS

Authority to Employ Physician and Nurse. It is recommended that the board of directors employ a physician or nurse. The *School Laws of Arkansas* state that:

It shall be lawful for the board of directors of any school district in this state to appoint and provide for the payment of one or more physicians or nurses and to assign any person so employed to the public schools of the district for the purpose of making such physical examination of the pupils of said schools as may be prescribed in the rules and regulations of the State Board of Education. Provided, the nature of said examination shall be only such as to detect contagious or infectious diseases, or any defect of sight, hearing, or function or condition of health tending to prevent any pupil from receiving the full benefit of school work.¹

For those schools that cannot meet this recommendation there are two suggested alternatives that may be employed to take care of these provisions:

1. Employment of a part time school physician. He may be hired to devote so many hours to the school a week, at which time he will take care of the services suggested in this program.

2. Subsidize the local health department. A designated time may be arranged when a physician from the personnel of the local health department will visit the school and take part in this program.

¹*The School Laws of Arkansas*, State Department of Education, Little Rock. 1937, p. 59.

OBJECTIVES OF THE HEALTH SUPERVISION AND HEALTH SERVICE PROGRAMS¹*Objectives of Health Supervision:*

1. To provide special and optimum conditions for certain handicapped children who would be at a disadvantage otherwise and to furnish exceptional satisfactory supervision for them.

2. To provide suitable and healthful surroundings and conditions for the child in school.

3. To teach the pupil how to lead a life of health always; and if defective, to teach him also as far as possible, how to escape the handicap of infirmity.

4. To furnish technical information and guidance for all those who contribute in any way to school health service.

Objectives of Health Service:

1. To understand the school child thoroughly; and to help him to realize the best health and development of which he is capable.

2. To protect the pupil against contracting disease from any other child during this period; and to prevent his conveying disease to any other pupil.

3. To discover and call to the parent's attention any existing health defects, more especially those of a remediable nature, and to inspire and assist the parent to provide suitable remedial treatment.

4. To enlist cooperation of all existing agencies and all available influences for the correction of defects of school children and teachers.

SCHOOL HEALTH SUPERVISION

The child spends the major portion of his day in the

¹T. D. Wood and H. G. Rowell, *Health Supervision and Medical Inspection of Schools*. Saunders. 1927, p. 7.

school. This is a valid reason for making the school environment both hygienic and enjoyable. The health supervision program will, therefore, include three phases:

1. Hygiene of the school plant
2. Hygiene of instruction
3. Hygiene of the school staff

1. HYGIENE OF THE SCHOOL PLANT

This phase includes many items in protecting the health of the child. However, only a few of the most important ones can be enumerated here. For the most complete description of the care of the school plant, several references have been cited at the conclusion of this chapter.

Heating and Ventilation. The essential requirements for proper heating and ventilation are as follows:¹

1. The temperature should not be above 68 degrees F., when the outdoor air is cooler than this.
2. There should be sufficient movement of air to provide good circulation without cold drafts.
3. The air should be clean and free from all avoidable dust and unpleasant gases or odors, either from nearby industries or from unclean bodies and clothing of pupils.
4. Slight changes of temperature, even of one to three degrees, provide a useful tonic effect upon the body.
5. The air should have as much of the outdoor quality as possible in the classroom.

Lighting. Two important factors to consider in proper lighting are adequacy of amount and proper diffusion. For natural lighting a commonly used standard is that windows should extend to the ceiling or nearly so with the amount of glass equal to one-fifth to one-quarter of floor area. "The preferred directions for the source of natural light are in this order—southeast, east, southwest, west. Windows should be so arranged that the light will reach the pupils from the left and behind, and should be on one side of the room only, whenever possi-

¹*Ibid.*, p. 477.

ble.''¹ For artificial lighting at least four lighting fixtures are needed. However, this may depend on the type of fixtures and size of room.

For proper diffusion, window shades of white, or very light tan, made of durable material to cover the entire area of the window should be used. It is best to have these shades adjustable on rollers to allow one to roll upward and the other downward.

Blackboards. Black slate is the best type. Boards should be so placed that no glare will be caused by the windows or lights. Never place them between windows. The height of the blackboard depends upon the size of the pupils using them. Chalk trays should be covered by a light mesh wire. A dustless chalk should be used. Erasers must be cleaned often and only by the janitor.

Water Supply. The water supply of the school must be pure and adequate in amount. Bacteriological tests should be made if there is any question of the purity. It has been suggested by many authorities to have periodic examinations of the water. This is especially important in rural districts. If wells are used they should be so placed that surface drainage and contamination is made impossible. Drinking fountains, if used, should be correctly adjusted for the sizes of the pupils and kept clean at all times. It is better to have the water come from the side of the fountain, so it is unnecessary for the mouth to come in contact with the outlet.

Sanitary coolers are often used in rural schools. In such cases individual drinking cups must be used. The common drinking cup should not be allowed. It is also better to have the water not in contact with the ice, cool water being better than ice water.

Water buckets are undesirable, but, if used, they should be made sanitary by thorough cleansing before each time of using. Water must never be left standing in the buckets. Sun exposure is often of benefit when the bucket is not in use.

¹*Ibid.*, p. 468.

Cleaning the Building. "Cleaning, in general, should be done often enough to keep the school on a sanitary level with the good homes of the community.¹ To have a clean building, the school janitor should perform the following duties:²

1. Clean all floors daily and floors having unusual use twice daily.
2. Dust all furniture every morning and all woodwork weekly. The best duster is the soft cord duster with handle. This duster will give the best results if treated with furniture polish or kerosene, time being allowed for evaporation of the liquid used.
3. Scrubbing should be done during each vacation period, at least.
4. Mopping. Unoled floors should be mopped once or twice a week, scrubbing being substituted at frequent intervals.
5. Oiling floors. A spray is the most economical method of spreading oil both from the point of view of saving of oil and of saving time.
6. Cleaning of glass in doors twice a week. Cleaning of glass in windows; outside, each vacation; inside, monthly.
7. Cleaning of toilets. Toilet rooms are flushed out with hot water from a hose or are mopped after each recess and dismissal period.
8. Cleaning blackboards once a week or oftener, if necessary.
9. Cleaning erasers and chalk trays. Erasers are best cleaned by the vacuum system, twice a week. Chalk trays are cleaned daily and wiped with kerosene.

Seating of Pupils. Poor seating causes fatigue to occur. Adjustable seats and desks are recommended so as to fit each individual. Children with poor vision or hearing should be cared for by seating them to the front of the room. However, these cases should be in the physician's care. The teacher can aid by assisting in this way until adjustments can be made.

For those schools that do not have adjustable seats the following suggestion may be used in the solution of this problem. If the room is equipped with single or double desks screwed to the floor, these can be unscrewed and mounted on runners or skids and thus made adapta-

¹*Ibid.*, p. 490.

²*Ibid.*, pp. 507-508.

ble to a more flexible seating arrangement. The runners should be of hard wood about 1 inch by 4 inches and cut in pieces long enough for a single desk and seat. Care must be taken so that the proper distance between seat and desk will be kept. The distance from the back of seat to the near edge of the desk should not be more than:¹

9 inches for desks numbers 6 and 5.

10 inches for desks number 4.

11 inches for desks number 3.

The desks on runners are easily handled and may be pushed aside in order to have more free floor space for activities.

Care of Gymnasiums, Playgrounds, and Playrooms. All play areas inside the building should be kept clean and sanitary like any other room in the building. Sunlight and fresh air are very essential in such rooms. These rooms need some heat, but it may be lower than in classrooms. The rooms should be free from obstructions. When this is impossible, padding can be used on the obstructions.

Smooth playgrounds free from obstructions are recommended. All papers and debris should be picked up. All apparatus must be kept repaired so that the children will not be injured.

Care of School Busses. Busses should be kept clean and sanitary as any room or any other school equipment. It will be necessary at certain seasons of the year to provide for heating these busses. Precaution should be taken against fumes collecting in the busses.

HYGIENE OF INSTRUCTION

The hygiene instruction is concerned mainly with the mental phase of the child in school. It considers the effects of the educational process upon the health of the child and so controls and adjusts the factors which make

¹*Handbook for Rural Elementary Schools*, Bulletin No. 3, The University of the State of New York Press, Albany. 1936, p. 27.

up the school work that they will not be endangering to the child's health. To do this work thoroughly the home and school must cooperate. When the child leaves home for school he should be in a rested condition and should have been given a sufficiently nutritious breakfast. With this cooperation from the home, the school, in turn, should consider all factors which will better the hygiene of instructing the child.¹

Arrangement of the School Day and Calendar Year. In an arrangement of the school day and calendar year the following phases should be included:

1. *Length of School Day.* The school day should be arranged that time is given for study, recitation, rest, (all elementary schools shall provide a minimum of four two-minute relaxation periods a day),¹ recitation or play, and lunch. The program should be so arranged that no strain, physical or mental, is on the individual. It is commonly known that children as a rule are more efficient mentally in the morning hours. This knowledge should be kept in mind when arranging programs so that more difficult subjects come in the best working hours for the pupils. Another solution is to intersperse the subjects so that difficult ones are followed by those less difficult.
2. *Teaching Program.* The teacher's program should include a reasonable pupil load in classes, regular rest periods during the day, and a reasonable number of classes. The desirable teaching program will avoid too long hours after school, too much correcting papers at night, and too much clerical work.

School Atmosphere. The school atmosphere should be one of joy and inspiration rather than stern discipline which was so rigidly enforced in the past and often re-

¹See: Physical Education for Primary and Intermediate Grades. P. 165.

sulted in fear. To create such a wholesome atmosphere the teacher is a great influence. This is expressed clearly in this thought: "The wholesome development of the child's nervous system depends upon maintaining his interest in school work, fostering and directing his spirit of inquiry and satisfying his love and need of activity. Substitution and suggestion must take the place of prohibition and repression. The true discipline is the self-control of interest."¹

Individual Attention. Each child should be studied as an individual rather than as a member of a group. It is necessary that the teacher make provision for individual differences according to the physical, mental, and social make-up of the child. Children must be allowed to progress at varying rates of speed. This may not allow whole class promotions, but it will allow better health of the child. Children who tend toward greater progress than that of the average child should be given the privilege of selecting extra work and duties.

Tests, Examinations and Marks. Tests are so often conducted in such a manner as to cause an emotional strain on the child. The school schedule should not contain any formal or drastic means of testing children. Less importance should be put on tests and marks, these should be looked upon as being integrated with the normal school routine. Teachers can help pupils to see that tests and marks are to show their progress instead of disgrace and penalty for failure. Pupils fear this personal embarrassment often brought on by tests and marks. Promotion must be arranged in a manner consistent with good health. Therefore, it is advised that the administering of all tests, examinations, and marks should be conducted in such a manner that no unhygienic conditions may be brought about. They should be in harmony with all the other factors mentioned in the hygiene of instruction.

¹National Society for the Study of Education, *Health and Education*. Ninth Yearbook, Public School Publishing Company, 1910, p. 60.

HYGIENE OF THE SCHOOL STAFF

The hygiene of the school staff is concerned with the health of teachers, janitors, custodians, bus drivers, and the like.

Health of the Teacher. It is important that the teacher's health be kept at a high standard, both for her own personal benefit and for its effect upon the pupils in the school. Every teacher is required to present a certificate of health before being employed in the schools of this state. This requirement is made in Section 11636 which states:¹

Hereafter, every school teacher within the State, shall present a certificate of health from a regularly licensed physician or regularly constituted health authority, stating that said teacher is free from tuberculosis and other contagious diseases, which certification of health shall be presented to the secretary of the school board before a contract shall be entered into between the school board and the teacher making application, and said certificate of health shall bear date no longer than twelve months prior to application. Failure of teachers or school board to comply with the provisions of this law makes them liable to a fine not to exceed one hundred (\$100.00) dollars payable into the general school fund in said county.

Health of Janitors and Custodians. It is important that the janitor's health be kept at a high standard, both for his own personal benefit and for its effect upon the pupils in the school. The janitor should wear a prescribed uniform which is distinctive and attractive. He should never go about in the building or appear before pupils, principals or teachers, unless his face and hands are clean and his hair brushed. He is requested to have his hair cut frequently and to shave daily. He is reminded that he must practice good personal hygiene if his profession is to receive respect from the teachers and pupils.

Health of Bus Driver. The health of the bus driver should be kept at a high standard. Any appearance be-

¹*The School Laws of Arkansas*, State Department of Education, Little Rock, 1937, p. 63.

fore the principal, teachers or pupils should find him cleaned and dressed neatly. He should always make it a point to practice good personal hygiene.

SCHOOL HEALTH SERVICE

HEALTH EXAMINATION

Purpose. The purposes of the health examination are to determine the physical defects or infectious disease, and to rate the child's physical condition for the purpose of classifying him in the type of physical activity most suited to his condition.¹

Frequency. The ideal standard is for every child in school to receive an annual health examination by a physician. Since most schools are unable to achieve this standard this suggestion by Williams and Brownell¹ is applicable:

In districts where annual health examinations are impossible, it is suggested that the emphasis be placed upon those entering kindergarten or grade one, grade three, grade six, and grade nine; those entering the school system from other districts or any children entering for the first time; and those referred to the physician by nurses and teachers.

It is important that each participant in athletics be pronounced physically fit before he is permitted to participate in any interscholastic athletic event.

Content. The physical examination of each child should be a thorough one. It is recommended that the detailed Arkansas State Board of Health school record form be obtained and the specific health items be checked by the physician.

Records. The form mentioned above can also serve as a health record for the individual pupils. It includes both the health examination record and his health history. A form for every child can be obtained from the County Health Department.

¹J. F. Williams and C. L. Brownell, *The Administration of Health and Physical Education*. Saunders. 1934, pp. 154-155.

THE FOLLOW-UP SERVICE

After the physical defects of the child have been discovered through the health examination, the school has still another important duty to perform, the follow-up service.

Every effort should be made to have the parents present at the time of the examination of the child. If the parents are not present, they should be notified of the child's condition by the use of a form letter which can be obtained from the County Health Department. A short time following the examination a conference should be arranged for the physician, nurse, and teachers to discuss methods of obtaining correction of defects.

Corrective Agencies. There are four agencies that will aid in the process of correcting remediable defects. These are:

1. Correction by the family physician.
2. Aid from the State Department of Public Welfare. The divisions of this department are:
 - a. Crippled Children's Division.
 - b. Child Welfare Division.
3. Aid from local health department. This department gives immunization and dental prophylaxis service.
4. Aid from the various civic and charitable organizations.

Daily Inspection. Every teacher in the elementary grades should conduct a morning health inspection. This should be conducted as the pupils come into the home rooms at the beginning of the school day.

During the inspection the teacher should include the matters of cleanliness and neatness. Points to be noted are: hands, face, nails, hair combed, clothing, handkerchief, shoes cleaned, overshoes and out-of-door clothing removed.

The children should be encouraged to cooperate in the inspection. They may aid in looking for cleanliness

and neatness in the group. Health monitors may be chosen by the class to assist the teacher for a week each. This will aid the teacher and will also help to establish attitudes and appreciation in the children concerning standards of cleanliness.

The teacher should watch for any abnormal condition of the child. The signs and symptoms of the common communicable diseases should be kept in mind by the teachers. The common signs or symptoms of communicable diseases are:¹

Flushed face without normal cause	Frequent coughing
Rash	Sneezing
Pallor	Sore throat
Red and watery eyes	Fever
Swollen glands	Chills
Running nose	Dizziness or faintness
Listlessness	Headache
Vomiting	

Should a child have any of the above symptoms the teacher should call in the school nurse or physician, if one is available. If not, steps should be taken to get in touch with the child's parents and the child's condition explained.

FIRST AID PROVISIONS

Every teacher should possess some knowledge of first aid treatment. By first aid is meant "the immediate, temporary treatment given in case of accident or sudden illness before the services of a physician can be secured."² It is suggested that physicians or nurses give such a course to teachers in the school so that they may be prepared to care for injuries which so often occur during the school day.

¹*Health Education. A Manual of Information for Rural Teachers.* New York State Education Department, Albany. 1931.

²American Red Cross, *First Aid Textbook.* Blakiston. 1933, p. 3.

Equipment. Each school building should be equipped with a first aid cabinet which should be in a convenient place. The American Red Cross suggests the following articles which a good first aid kit must contain:¹

- 1-inch compress or adhesive in individual packages.
- Sterile gauze squares—about 3 in. x 3 in.—in individual packages.
- Assorted sterile bandage compresses in individual packages.
- Triangular bandages.
- Sterile gauze in individual packages of about 1 sq. yd.
- Picric acid gauze.
- Burn ointment.
- Iodine ampules—3½ per cent iodine.
- Aromatic spirits of ammonia.
- Inelastic tourniquet.
- Scissors.
- 3-inch splinter forceps.
- Paper cups.
- 1-inch and 2-inch roller bandages.
- Wire or thin board splints.

Castor oil or mineral oil, for use in eyes. This should be sterile; may be obtained in small tubes.

VACCINATION REQUIREMENTS

The following is a part of the School Laws of Arkansas concerning vaccination requirements:²

Teacher, Employee and Pupils Must Be Vaccinated. No person shall be entered as a teacher, employee or pupil in the public or private school in the State without having first presented to the principal in charge or the proper authorities, a certificate from a licensed and competent physician of the State certifying that the said teacher, employee or pupil has been successfully vaccinated; or in lieu of a certificate of successful vaccination, a certificate showing immunity from having had smallpox. The responsibility for the enforcement of this regulation shall rest equally on each and every member of the school board, the superintendent, principal or teacher in charge and the parent or guardian of the pupil, and each of them shall be separately and individually liable for permitting any violation of this regulation.

¹*Ibid*, pp. 227-228.

²*The School Laws of Arkansas*, State Department of Education, Little Rock, 1931, p. 123.

HEALTH SERVICES AVAILABLE TO SCHOOLS THROUGH
COUNTY HEALTH DEPARTMENTS¹

All schools should avail themselves of the free services with regard to toxins, anti-toxins, immunizations, and diagnostic tests which are offered by the State through the County Health Department.

The health services available to schools vary from county to county, because of necessary differences in administration of county health departments, number of personnel on the staff, funds available, general health problems of the community, social and economic status of the area, and attitude of the local physicians, dentists, and people toward the school health program. Local school personnel, therefore, should contact their county health departments to learn what services can be secured in their school.

The State Health Department does not render direct services to schools. It offers expert advisory and consultative services to the county health departments, and requests for State Health Department services should be made through the county health departments.

ADMINISTRATION

Maintenance of Standards. The administration of the school health program rests with the superintendent who is responsible for the maintenance of high standards in the program. Frequently a superintendent, believing that the members of the health staff have a high degree of technical training which is outside the field of education, feels that his supervision is unnecessary. Such an idea is erroneous. These specialists need not only his assistance in becoming an integral part of the school system, but also his interest and oversight as a stimulus to high standards of work.

¹*The Organization and Activities of the Arkansas State Board of Health.* State Health Department, Little Rock. 1937.

School Hygiene Handbook. Hygiene Series No. 3, Massachusetts Department of Public Health, Boston. 1934.

Mustard, H. S. *Rural Health Practice.* The Commonwealth Fund, New York. 1936.

Coordination of All Parts of the Program. The different aspects of school health work should be coordinated. The following plan is one method of accomplishing this: Two or three times a year the superintendent or the school physicians, school nurse, school dentist (in most instances this means the staff of the county health department), physical education teacher, representative teachers (including home economics teacher if available) and the janitor should meet as a council. The health work can be unified through this council, and it can decide where the emphasis, which necessarily shifts from time to time, should be placed.

Record Keeping and Evaluation of Results. The State Health Department provides the county health departments with school record forms. Examination records compiled by the health department can be made in duplicate, and a copy left with the school on request. These records and their interpretation should be made available to teachers, particularly those teaching physical education.

HEALTH SUPERVISION

Provision of Hygienic Environment. There is scarcely any part of the school environment which does not have a bearing on the health of the children. Before any school board selects a site or has plans prepared for construction, major additions, or repairs to schools, the county health department should be consulted. Rules and regulations of the State Board of Health with reference to the sanitation of schools can be obtained from the county health departments or the State Board of Health. County health departments from time to time make sanitary inspections of schools and report to the school authorities.

Hygiene of Instruction. The health implication of the number and length of recesses, rest periods, the length of the school day, the amount of home study, the arrangement of subjects, etc., has frequently been for-

gotten, and these matters have been arranged to promote an educational scheme rather than the well-being of the pupils. The consultation of county health department personnel is available to school authorities in these matters, particularly in relation to specific children.

Lunches—Mid-Morning and Noon. Public Health nurses will instruct school teachers in the use of the "Hot Jar Method of School Lunch."

HEALTH SERVICE

Preparation of Children For Entrance To School. County health department personnel, physicians, nurses and dentists, will give their services in the conduct of "Summer Round-Ups." These services consist of: providing medical and dental examinations, distribution of literature on feeding and habit training, immunization against smallpox, diphtheria, and typhoid fever, and referral to family physicians and dentists for correction of defects discovered. The department will assist in securing publicity, and in making arrangements for the place of examination and for equipment. Public health nurses will aid Parent-Teacher Associations and other lay groups in the "follow-up" to get correction of defects.

Protection Against Communicable Disease. The State Health Department recommends that schools be kept open in the presence of outbreaks of communicable disease, the single possible exception being the distinctly rural community where the only common meeting ground of the children is in the school house.

In an epidemic, the county health department will provide for daily medical and nursing inspection to locate unrecognized cases, and immediately exclude them from school. Such a procedure is more effective than closing the schools which throws the children to play together without supervision of any kind. In such situations technical advice and consultation is available to the

county health departments from the State Health Department, Division of Communicable Disease Control.

Isolation requirements and periods of exclusion from school for particular communicable diseases will be found in the Rules and Regulations of the State Board of Health.

The county health department will determine whether or not the smallpox vaccination law is being enforced and will vaccinate those who request it. The Department will give typhoid and diphtheria immunization, followed by Schick tests for immunity to diphtheria, upon request.

The health department offers public immunization of school children against smallpox, typhoid fever, and diphtheria. When necessary they will make epidemiological investigations, search for mild and missed cases and carriers of these diseases, and exclude them from school. Since two-thirds of diphtheria deaths occur in children of pre-school age, the school authorities can be of inestimable help in urging that when school children are immunized, younger brothers and sisters be likewise immunized.

The State Health Department provides the following biologicals free to county health departments and to all physicians: smallpox vaccine, typhoid vaccine, and diphtheria toxoid and toxin—anti-toxin for immunization against smallpox, typhoid and diphtheria. The Department also provides diphtheria toxin (Schick test) to determine immunity. It provides for those unable to purchase for themselves:

Diphtheria antitoxin to prevent diphtheria in exposed susceptible individuals.

Diphtheria antitoxin to treat cases.

Rabies vaccine for exposed cases.

Tetanus antitoxin for prevention.

Bismuth, distilled water, neoarsphenamine and sulpharphenamine for treatment of syphilis.

The State Health Department provides the following laboratory examinations:

Nose and throat cultures for diphtheria cases and carriers.

Feces for parasites.

Smears for gonorrhea.

Blood smears for malaria.

Animal heads for rabies.

Blood and spinal fluid for syphilis.

Sputum and pus for tuberculosis.

Blood for tularemia.

Blood for typhoid fever.

Stools for typhoid fever.

Blood for undulant fever.

Public and semi-public water for bacteria and chemical composition.

Spinal fluid for meningitis.

Health departments offer the tuberculin test to all school children whose parents request it. The test is particularly desirable in high school, college, and in individuals who have been contacts to known cases of tuberculosis. The object is diagnosis of early cases of tuberculosis at the time when they respond most favorably to treatment. Of equal importance is the detection of the source of their infection which is often an unsuspected case in the family. Positive reactors are reported to their family physicians for X-ray and for advice and treatment where indicated. Upon request of the County Medical Society the traveling X-ray unit of the State Health Department will visit the county and X-ray free of charge all patients referred by physicians.

Health departments will make malaria surveys in schools upon request. The Malariologist of the State Health Department is available to county health departments for assistance. Blood slides are examined in the State Hygienic Laboratory, and the residences of positive cases are "spotted" on maps. The State Entomologist will then survey epidemic areas for malaria mosquitoes and their breeding places. The Malaria Engineer will then survey the breeding places and recommend the best methods of control with approximate costs.

HEALTH PROMOTION

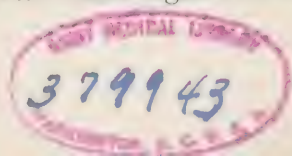
Examinations—Medical, Mental, Dental. There are several different types of examinations available to schools from the health departments. First, a relatively rapid survey or inspection of all pupils for one or two

items, such as smallpox vaccinations evidence, head or body lice, skin eruptions (scabies, impetigo) etc. Second, inspection of children during epidemics. Third, examination of children for readmission to school after communicable disease. This service is particularly available in those centers where the health departments are located, and in such areas their support should be obtained rather than that of the family physician. In distant and rural schools the health department cannot provide such service, and the school should either select one physician or accept the report of all physicians. Fourth, annual school medical examination. The purpose of this examination is not to make a diagnosis, but to discover whether or not the child has any defects which might prevent him from taking full advantage of the opportunities offered in school, or which might make school activities detrimental to his general health. When discovered, it is the duty of the family physician to make the completed diagnosis and give treatment if indicated.

County Health departments are not able to examine every child every year, and it is questionable whether such procedure is worth while. Some selection is usually made except in the case of small rural schools. It is usual to examine the first, third or fourth, and seventh or eighth grades, together with any special children referred by the teacher or nurse, and major athletic groups. Weighing and measuring, and testing of sight and hearing should be done by teachers. Public health nurses will instruct teachers in these procedures. The State Health Department has one audiometer available to county health departments for testing of hearing.

No provision has been made as yet for mental examination of retarded or maladjusted children.

Dental inspections are usually made by the health officer conducting the school examination. In many communities local dentists are willing to donate their services for dental examinations. In fifteen counties the health department has a dental clinic for pre-school and first and second grade children under eight and one-




half years of age and who have dental defects which they cannot afford to have corrected by private dentists.

Medical directors of county health departments will also examine school teachers and janitors upon request.

Correction of Defects. The correction of defects is the real measure of the worth of the examination of school children. Some health workers believe the examination in itself will teach the child the importance of such procedures and lead to the practice of obtaining periodic examinations in later life. The negative teaching involved in examination and re-examination with no action for correction is not likely to impress the child with the importance of regular medical observation.

The State Health Department is not in a position to provide correction of defects as follows: immunization where its lack is counted a defect, dental prophylaxis as already described, and the treatment of certain cases of syphilis and gonorrhea referred to them by private physicians. Therefore, the problem of obtaining corrections of defects must be considered a community problem and all agencies must assume responsibility.

The forces which bring about correction of defects are:

1. *Health Education of the Public at Large.* An informed public is necessary if public support is to be obtained.
 2. *Health Education In the Schools.* If the school health education program is to be worthwhile, it must so operate that information imparted to the child will be put into practice by him. One of the most concrete evidences of effectiveness here is the number of defects corrected.
 3. Conference by doctor or nurse with the individual child and parent at the time of examination.
 4. Community organization.
- 

5. Availability and utilization of remedial facilities: State Tuberculosis Sanatorium, Welfare Department, hospitals, clinics, private physicians, and dentists.

In addition to items 4 and 5, it is recommended that following a school examination the county health personnel meet with lay committee composed of the school teachers and community leaders (suggest the health committee of the Parent-Teacher Association). The health officer or nurse will go over the findings of each examination with this committee which knows who can afford to pay full fees for medical service to their children, who can pay part, and who cannot pay anything at all. The parents of the first group need only be persuaded to take the child to doctor or dentist. Correction of defects in children whose parents are in the second or third group must be assumed as a community responsibility. Before action is taken with the parents of the last two groups the committee must survey local facilities. Perhaps corrections can be made in a county seat hospital or by getting all physicians and dentists to make certain reductions and do a definite amount of free work. In any event such a committee can obtain more corrections in one burst of activity than the health department can obtain by house to house follow-up in a year.

6. Public health nursing follow-up work in individual homes.

Special Classes—Visiting Teacher Work. Frequently special classes are needed for the mentally retarded, undernourished, deafened, eye conservation classes, posture classes, speech defect classes. County health departments will cooperate with the schools in the selection of children for such classes and advise in the conduct of such classes.

HEALTH INSTRUCTION

The foremost services of the health department of schools in this field lies in talks to teachers by medical directors, dentists, nurses, and sanitarians on such subject as prevention and control of communicable diseases, oral hygiene and prophylactic dentistry, eye and ear testing, community sanitation, and other pertinent health matters. The health department will also provide teachers with educational material and references which they can use in health instruction.

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Suggested References:

Bulletins and Materials from U. S. Office of Education or Superintendent of Documents, Washington, D. C.

Health Education Series:

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No. 8, *School Health Supervision*. 1924.
No. 12, *Health of the Teacher*. 1926.
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Pamphlets:

- No. 5, *State-Wide Trends in School Hygiene and Physical Education*. 1930.
No. 67, *Training of Elementary Teachers for School Health Work*. 1936.
Boy Scout Handbook.

Suggested References by State Boards of Health

- Arkansas State Health Department, *The Organization and Activities of the Arkansas State Board of Health*, Little Rock. 1937.
Massachusetts Department of Public Health, *School Hygiene Handbook*, School Hygiene Series No. 3, Boston. 1934.
Mustard, H. S., *Rural Health Practice*, The Commonwealth Fund, New York. 1936.

V. HEALTH INSTRUCTION

HEALTH INSTRUCTION IN THE JUNIOR HIGH SCHOOL

In the junior high school relatively more emphasis should be placed upon the problems arising from group activities offered in the school, home and community than in the elementary grades. The dissemination of health knowledge should, however, continue to be an important function of the junior high school. Health is a way of living, and, as such, must be associated with conduct. Opportunities must be created in the schoolroom, at play and at home for the practical application of health knowledge to life-like situations, and much attention should be given to the pupil's development of an understanding of the ways in which his choices and actions may affect his own health and that of the community.

SUGGESTED UNIT AREAS

The following unit areas are suitable for pupils on the junior high school level, and when fully developed should constitute a comprehensive program of health instruction. The same unit areas may be integrated with the junior science program, and for teaching convenience, they may be broken down into smaller units, or others may be included if the teacher feels they are needed.

1. Good Health Essential To Fullest Meaning of Life.
2. Good Health and Efficiency.
3. Doing the Most With Ourselves.
4. Our Body as a Machine.

SECONDARY COURSE OF STUDY IN
SUGGESTED TEACHING PROCEDURES

1. GOOD HEALTH ESSENTIAL TO FULLEST
MEANING OF LIFE

Objectives:

1. To know what good health means to the individual.
2. To learn the value of good health.

Activities:

1. Ask the pupils to determine what good health means to them in terms of economic importance, social contacts and participation in recreation.
2. Develop case studies of individuals who are splendid examples of good health.
3. Develop the method of self-evaluation that brings out how well an individual is as opposed to how sick an individual is.
4. Develop the philosophy of prevention of illness and the underlying problems of preventive medicine.
5. Analyze the mental hygiene involved in the individual who seems to take delight in describing his ailment.
6. Analyze the mental hygiene involved in being able to smile and be brave in the face of illness and disease.
7. Make studies of posture and physique to bring out the damaging effects of ill health.

Outcomes. Evidences of pupil growth:

1. Develops an appreciation of the inter-dependence and inter-relationship of the various phases of health.

2. Creates a desire to assume responsibility for personal health.
3. Assumes responsibility in promoting desirable public health practices.
4. Becomes alert to new ways of developing good personal and public health practices.

References:

C. E. Turner, and Georgie B. Collins, *Community Health*. Heath. 1935. pp. 1-10, 118-136, 201-215.

Wm. E. Burkard, Raymond L. Chambers, and Frederick W. Maroney, *Personal and Public Health*, Grade 7, Lyons and Carnahan. 1937. pp. 1-6, 16-21.

2. GOOD HEALTH AND EFFICIENCY

Objectives:

1. To know the value of the health examination.
2. To know the effectiveness of your family physician.
3. To know the merits of immunization and inoculation.
4. To aid the individual with self improvement plans.

Activities:

1. Enumerate the advantages of knowing the health different activities.
2. Ask a physician why age, weight and height are the most common items on a health examination record form.
3. Select one of your fat and thin, short and tall friends and analyze the possible reason for their being so, considering the effect of glands, racial factors, heredity, diseased tonsils, and other physical defects, possibilities of diseases such as tuberculosis and colds, fatigue, diets, inadequate or too much exercise.

4. Secure representative opinions from the school employees, nurse, teachers and administrators how the school health service might be improved with special reference to the health examination and its follow-up.
5. Determine how many specialists in the field of health in your city have doctor of medicine degrees.
6. Discuss the factors influencing the effectiveness of the family and school physician in making the health examination.
7. Have a physician enumerate the advantages and disadvantages of free medical treatment and also of socialized medicine.
8. Chart the best time, on the basis of reliable information, for immunization and inoculation for smallpox, diphtheria, whooping cough and typhoid fever.
9. Investigate whether or not Arkansas has a compulsory vaccination law.
10. Find Arkansas's death record for smallpox, diphtheria and whooping cough and compare it with other states.
11. Determine how much absence from school is due to the most common preventable diseases.
12. Make a list of those things you may want to do or which you should do, but about which you want to know more to insure maximum health and efficiency.
13. Give examples of people who have achieved success and fame even though they were physically "handicapped."
14. List those diseases and defects in which early treatment is particularly important.
15. Make a health habit score sheet and check it at regular intervals during the year or study the health habits of a successful older person.

Outcomes. Evidences of pupil growth:

1. Appreciates the value of health examinations.
2. Regards the physician or other qualified specialist as a friend whose opinion and health advice deserves respect.
3. Recognizes the qualities of a healthy person and the importance of all-round development.
4. Attains an active interest in health conditions, especially weight, special senses, heart and lungs.
5. Appreciates the economic, aesthetic, physiological and psychological values of keeping maximum health and efficiency.

References:

C. E. Turner, and Georgie B. Collins, *Community Health*. Heath. 1935, pp. 1-10, 118-136.

Wm. E. Burkard, Raymond L. Chambers, and Frederick W. Maroney, *Personal and Public Health*, Grade 8, Lyons and Carnahan. 1937, pp. 71-112.

3. DOING THE MOST WITH OURSELVES

Objectives:

1. To develop a scientifically critical but intelligently self-directing attitude toward any personal health practice.

Activities:

1. Collect advertisements and labels of patent medicines and tell what is stated that is not based upon reliable facts.
2. Discuss other possible objections including the dangers of self-medication in delaying scientific diagnosis, giving false sense of security and resulting in taking habit-forming drugs.
3. Report on the national expenditure for patent medicines. Name and evaluate reasons why people use patent medicines.

4. List some common present day and ancient health superstitions and check those that are practiced.
5. Discuss the influence of traditions in the beliefs and practices of people in relation to health.
6. Discuss who determines what are superstitions and what are facts.
7. Evaluate the statement that "The more intelligent an individual becomes the less superstitious he may be."
8. List the sources of accurate information about health.
9. Leaf through a magazine, close the magazine and write from memory a list of the advertisements which you recall. Evaluate the ones remembered and see if a knowledge of facts or emotions determine your choice.
10. Compare your local papers for wise and unwise health advertising. Use the clippings to develop a class scrap book on health advertising.
11. Discuss the following: "accepted by the A.M.A." and laws prohibiting fraudulent advertising.
12. Demonstrate the effects of tobacco by blowing smoke into a bowl of water containing a gold-fish.
13. Have the coach or a doctor lecture on the effects of tobacco and alcohol.
14. Demonstrate the effect of alcohol on egg white.
15. Find what insurance companies know of the relation of longevity to the use of alcohol.
16. Make graphs showing the relative amounts spent in this country annual for tobacco, alcohol and education.
17. Demonstrate how tea and coffee should be prepared to minimize their harmful effects.

18. Discuss the various physiological and psychological reasons for rest, relaxation and sleep.
19. List and evaluate the various rest procedures.
20. Study the school day program for all grades and see when and where rest periods are used.
21. Study opportunities which the community provides for recreation.
22. List and criticize some of the fads in exercise.
23. Make a study and prepare a scrap book on "Clothing of Different Lands".
24. Discuss the relation of kind of fiber and color to warmth of clothing.
25. Discuss the hygienic versus the psychological and social effects of bathing.
26. Demonstrate how to manicure the nails.
27. Conduct a posture campaign within the class or school.
28. Demonstrate the relationship between posture and appearance of clothes, using living models if possible.
29. Adjust seats to fit individual pupils.
30. Study the lighting in the classroom and discuss arrangements for removing vision hazards in relation to seating, blackboards and the use of shades.
31. Demonstrate testing of hearing by one or more of the following methods: (1) whispered speech (2) audiometer (3) phone-audiometer.
32. Discuss adenoids and tonsils as sources of infection. Have a dentist lecture on the care of the teeth.
33. Make a survey of the class to determine how many pupils have had a dental examination within the past year.

34. Discuss reasons why primitive peoples often had better teeth than we have.

Outcomes. Evidences of pupil growth:

1. Eliminates false beliefs and unscientific practices resulting from superstition, health advertising, and the use of patent medicines.
2. Adheres to proper health behavior in regard to the use of tobacco, alcohol and drugs.
3. Has a vast admiration for the body and an appreciation of the importance of rest, relaxation and exercise in taking care of it.
4. Knows the social, aesthetic, mental and physical values of bodily cleanliness and practices same.
5. Realizes that the wise choice and proper care of clothing aids in promoting the health, comfort, and attractiveness of the body.
6. Knows in which ways postural features of the body are influenced by personal health practices.
7. Appreciates the value of good personal appearance.
8. Possesses correct attitudes and practices that will result in conservation and preservation of the special senses.
9. Knows and practices correct oral hygiene to gain better health and appearance.
10. Becomes intelligently self-directing in personal health practices.

References:

C. E. Turner, *Physiology and Health*, Heath. 1935, pp. 242-261, 197-216, 180-196.

C. E. Turner, and Georgie B. Collins, *Community Health*. Heath. 1935, pp. 67-83, 189-200, 118-122.

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Haven Emerson, *Alcohol, Its Effect on Man*, Appleton-Century. 1936.

Morris Fishbein, *Fads and Quackery in Healing*, Blue Ribbon Books, Inc., New York. 1932.

T. Swann Harding, *The Popular Practice of Fraud*, Longmans, Green. 1935.

Gilbert H. Trafton, *Biology of Home and Community*, Macmillan. 1923, pp. 504-516.

4. OUR BODY AS A MACHINE

Objectives:

1. To learn the structure and inter-relation of the various system of the body (digestive, circulatory, respiratory, muscular, skeletal, nervous, glandular, lymphatic, excretory and reproductive).
2. To learn the proper care of the organs of the body.

Activities:

1. Study one-celled animals under microscope.
2. Demonstrate the action of saliva on starch.
3. Contrast the digestive system of man with that of a chicken.
4. Test the effect of strenuous exercise on the pulse rate.
5. Discuss the effect of infections, toxins, drugs, alcohol, illness, strenuous exercise after illness and rest upon the heart.
6. Discuss the problems of tuberculosis in Arkansas.
7. Arrange to have tuberculin test given pupils.
8. Make a study of the prevalence of colds among pupils and make plans to reduce this.
9. Discuss the kinds of muscles and the functions of each kind.
10. Show the relation of muscle tone to organic function of the various parts of the body.

11. List those environmental conditions and those man-made conditions which affect growth of the skeleton.
12. Discuss the relation of emotional attitude to digestion.
13. Compare the nervous system to a telephone system.
14. Explain the effects of the thyroid gland on the body.
15. Make a cardboard model of an arm with a joint at the elbow. Use strings to demonstrate the pull of the biceps and of the triceps.
16. Measure the "reaction time" by finding how long it takes a squeeze to be passed from hand to hand around a circle of pupils. Divide the total time by the number of pupils taking part.
17. Buy a beef heart or sheep heart at the market if possible and study its structure in class.
18. Measure the girth of your chest when you have breathed in and when you have breathed out (1) during normal breathing (2) during a deep breathing exercise.
19. Illustrate the principle of peristalsis by showing how a bead can be worked through a rubber tube by pinching behind it.

Outcomes. Evidences of pupil growth:

1. Knows the origin of life; that life comes from the union of two cells and that cells specialize as they multiply, forming tissues, organs and systems which perform different functions for our body machines.
2. Knows the structure and function of the skeletal, muscular, digestive, circulatory, lymphatic, respiratory, excretory, glandular, nervous and reproductive systems and their inter-relationships which correlate the vital processes of life.

3. Appreciates the fact that the future of the race is intrusted to the present generation.
4. Knows that physical, emotional and mental health cannot be separated.
5. Understands the effect of habit formation on the activities of daily life.
6. Realizes that proper development, strength and neuro-muscular co-ordination are essential for speed, grace and endurance.

References:

C. E. Turner, *Physiology and Health*. Heath. 1935, pp. 22-60, 91-179, 217-225, 242-261.

Wm. E. Burkard, Raymond L. Chambers, and Frederick W. Maroney, *Personal and Public Health*, Grade 7, Lyons and Carnahan. 1937, pp. 9-89, 170-255.

W. M. Smallwood, Ida L. Reveley, and Guy A. Bailey, *New Biology*, Allyn and Bacon. 1934, pp. 425-501.

Gilbert H. Trafton, *Biology of Home and Community*. Macmillan. 1923, pp. 440-503, 544-566.

George C. Wood, and Harry A. Carpenter, *Our Environment, How We Use and Control It*, Allyn and Bacon, 1934, pp. 655-700, 769-791.

SAMPLE TEACHING UNITS

A list of integrated teaching units and a general bibliography of materials suitable for the junior-senior high school are given on pages 75-79.

HEALTH INSTRUCTION IN THE SENIOR HIGH SCHOOL

In the senior high school, health instruction will differ from that in the lower grades to the extent that the gaining of information will be emphasized as a basis for understanding and extending the skills and habits already developed. Health, as previously indicated, is a way of living, and, as such, must be associated with conduct. Moreover, on the senior high school level it is increasingly essential in most schools that all forms of health instruction be organized into units and integrated with other related subjects.

SUGGESTED UNIT AREAS

1. The Development of Personality.
2. The Relation of Health to the Making of a Living.
3. Our Responsibility in Protecting Public Health.
4. Man's Right to Be Well-Born.
5. Our Responsibility for the Development of Better Health Conditions.

SUGGESTED TEACHING PROCEDURES

1. THE DEVELOPMENT OF PERSONALITY

Objectives:

1. To adjust ourselves for better moral and social health understandings.
2. To create better mental and emotional attitudes.
3. To show how physical health is related to other phases of personal health.
4. To develop a good personality.

Activities:

1. Analyze situations to bring out the principle that what may be right for one may be wrong for another.

2. Encourage pupils to set up philosophies of living which lead to establishment of moral standards.
3. Show how intoxicants destroy the moral fibre of the user.
4. Analyze the theory that all money gained should represent some form of service rendered.
5. Study behavior of individuals to illustrate normal and abnormal reactions to environmental conditions.
6. Discuss the relationship between mental health and adjustment to society.
7. Make case studies of problems involving honesty to illustrate the relationship of honesty to mental and emotional stability.
8. Discuss poor mental and emotional health and its relationship to normal functioning in making decisions.
9. Analyze such behavior as crying, pouting, fighting as indices of emotional instability.
10. Sketch the characteristics of an introvert and determine the effects on sound mental health.
11. Discuss how an individual may overcome disappointment.
12. Illustrate the ways in which physical, mental, emotional and social health are all co-dependent in enabling the individual to make normal social adjustments.
13. Discuss how good physical health enables the individual to secure and hold a position.
14. Analyze application forms for jobs and positions to determine the importance of social, mental and emotional health as related to physical health in gaining satisfactory employment.

15. Study the recreational and social activities of your community to determine the place of physical health as a factor in satisfactory participation.
16. Make an analytical study of the factors that contribute to a successful personality. It has been said that the person who gets along with everyone has a good personality. Criticize the statement.
17. Make an analytical study of the factors that contribute to making a poor personality. Which ones are acquired and which ones are developed?
18. Make a study of the types of work in the community with a view to determining the part that personality plays in the ability of an individual to succeed in a given type of work.
19. Study the divorce problems in your community to determine the relationship of divorce to personality.

Outcomes. Evidences of pupil growth:

1. Understands the importance of building for himself a sustaining philosophy with respect to accepted moral standards.
2. Appreciates the importance of a harmonious social relationship with those with whom he works and plays.
3. Understands all of the factors of his environment to the extent that he is able to make suitable adaptation and adjustments.
4. Realizes that he must earn a place in his society.
5. Knows that the emotions must be kept in control.
6. Recognizes the fact that mental health and physical health are complementary.
7. Appreciates the interdependency of mental, emotional, social and physical health as factors in an integrated personality.

8. Understands that personality is the outward manifestation of the inner harmonious functioning of the mental, physical, social, spiritual and emotional processes.

References:

- L. J. Bogert, *Diet and Personality*. Macmillan. 1934, pp. 1-36.
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 E. Jacobson, *You Must Relax*. McGraw-Hill. 1934, pp. 42-56, 100-118, 141-152.
 D. A. Laird and Charles G. Muller, *Sleep*. John Day. 1930, pp. 3-25, 129-134, 175-183.
 J. F. Williams, *Healthful Living*. Macmillan. 1934, pp. 543-552.
Health and Safety Education, Bulletin 125. Indiana State Department of Public Instruction, Indianapolis. 1939, pp. 38-40.

2. THE RELATION OF HEALTH TO THE MAKING OF A LIVING

Objectives:

1. To know that we can do more efficient work when we have good health.
2. To know what industries should do to protect the health of the worker.

Activities:

1. List occupations that have a health examination as a prerequisite to employment.
2. Discuss reasons why some employers provide health service departments with nurses and physicians.
3. List the health assets and liabilities inherent in the following: regular hours of work, fear of unemployment, a full physical examination required before employment, shorter hours, more monotonous labor, sedentary work, night work.
4. List assets and liabilities of the following: play, loafing, work, dissipation, stealing, drudgery, contentment.

5. Discuss: light, ventilation, drinking water, eating facilities, toilets, rest-rooms, clothing, fatigue and night work, as related to the worker.
6. Study the dangers involved in occupations which require contact with: lead, mercury, benzene naphtha, wood alcohol, acids, arsenic, brass and bronze dust, sand, carbon monoxide gas, rubber, coal, gas, dyes, ammonia, skins and hides, non-poisonous dusts.
7. Point out the fact that there is a dual responsibility for provision and use of safety devices and for the observance of safety regulations.
8. List the responsibilities of the employer and of the employee.

Outcomes. Evidences of pupil growth:

1. Realizes the value of good health and knows how to maintain normal health.
2. Knows occupational hazards.
3. Appreciates the benefits of hygienic working conditions to both employer and employee.
4. Realizes that disease limits the earning power of the individual.

References:

- D. K. Brundage, *Sickness Among 21,000 Automobile Workers*. U. S. Public Health Reports, Washington, D. C.
- L. Z. Dublin, *Causes of Death by Occupations*. U. S. Department of Labor, Washington, D. C.
- C. E. Turner, *Personal and Community Health*. Mosby. 1935. pp. 540-559.

3. OUR RESPONSIBILITY IN PROTECTING PUBLIC HEALTH

Objectives:

1. To know the work of the departments that are promoting and protecting public health.
2. To know the auxiliary agencies that aid in the promoting and protecting the public health.

3. To realize our personal responsibility for the promoting and the protecting of the public health.
4. To know the problems of the most common diseases in your community.

Activities:

1. Study the U. S. Public Health Service, its activities and responsibilities.
2. Secure information concerning the present program of the United States Children's Bureau.
3. Visit either the Board of Health or one of the full-time Local Health Departments to study its program.
4. Request bulletins entitled: *Materials and Services Available* and *Public Health Administration*, from the Arkansas State Board of Health, Little Rock, Arkansas.
5. Visit your town, city or county health officer and find out his duties and responsibilities and report them to the class.
6. Study the school health service programs of other schools. Compare these with your own.
7. List the organizations in your community that have assumed responsibility for some phase of health.
8. List all of the volunteer health agencies and discuss their functions.
9. Analyze the effectiveness of government health agencies and volunteer health agencies.
10. Distinguish between recognized reputable groups and those of a "quack" nature.
11. Report how you would be affected if all health agencies were suddenly stopped and you were forced to live one year without the services which they render.

12. Report on the effects of the White House Conference on Child Health.
13. List the ways that you now cooperate with official health agencies.
14. Explain how the failure of one individual to cooperate with public health regulations might harm a great many people.
15. Tell what you would like to see done in the health field during your lifetime.
16. Discuss the difference between a sign and symptom.
17. Define and list the common organic diseases.
18. Study each of the common organic diseases, listing methods of prevention.
19. Make a list of occupational diseases.
20. Study hay fever, asthma, chronic coughing, hives, eczema, swellings of the face, hands or feet, stomach and intestinal disturbances, kidney and bladder trouble, convulsions, headaches, weakness or dizziness.
21. Discuss the effect on different people of dust, smoke, fumes, tiny particles of plants and animals.
22. Discuss the causes of rickets, ophthalmia, beriberi, scurvy, pellagra, sterility.

Outcomes. Evidences of pupil growth:

1. Knows the health functions of the Federal and State Governments.
2. Believes that expenditure of public funds for the promotion of health is the duty of government.
3. Knows the functions of various units of the local health department.

4. Knows the official regulations and feels a sense of personal responsibility for helping contribute to public health.
5. Cooperates with public health law enforcement by observing the law and by reporting violations to officials. Acts for the welfare of the community in spite of selfish interest and personal inconvenience.
6. Knows diseases and the methods of disease control.

References:

J. F. Williams, *Personal Hygiene Applied*. Saunders. 1934, pp. 1-30, 72-76, 100-108, 127-145, 250-299, 330-331, 354-362, 420-440, 479-480, 484.

T. D. Wood and H. G. Rowell, *Health Supervision and Medical Inspection*. Saunders. 1927, pp. 167-231.

4. MAN'S RIGHT TO BE WELL-BORN

Objectives:

1. To know and realize our responsibility to our children.
2. To have a knowledge of the effects of social diseases.
3. To know why we should understand heredity and eugenics.

Activities:

1. Make a study of the biological implications of reproduction.
2. Develop the problem of reproduction among the lower animals showing that the number born is in direct ratio to the ability to rear young to maturity.
3. Discuss the basic law of survival in the human race.

4. Make a study in the community of family sizes with those of earlier generations and also with the medium size family for the country.
5. Write a theme on this question, "Who Should Bear Children?"
6. Relate Mendel's Law of Heredity to the problem of bearing strong children.
7. Discuss the causes and symptoms of feeble-mindedness and insanity.
8. Find out about the newer preventives and treatments of insanity.
9. Study the history and value of blood tests.
10. Justify uniform marriage laws requiring a doctor's certificate as a prerequisite for marriage.
11. Visit a clinic for treatment of patients with venereal diseases.
12. Invite members of the medical profession to talk to the members of the class on the problems related to venereal diseases.
13. Develop a report on the topic, "Why I Should Take a Blood Test."
14. Make a study of the diseases traceable to syphilitic background.
15. Make a study of the methods of the people of historic Sparta and Athens in developing a strong race.
16. Analyze the methods used in developing strong strains of poultry, livestock and grain with a view to building support for a similar attitude for the human family. Justify using as much judgment in producing strong human beings.
17. Justify the principle that relatives such as first cousins should not marry.
18. Make a study of the Kalikak and Edwards families.

19. Make a study of sterilization laws that are in force.

Outcomes. Evidences of pupil growth:

1. Appreciates the importance of bearing healthy children.
2. Realizes the significance of assuming full responsibility for rearing children properly.
3. Recognizes the problem of bearing in proportion to economic ability to provide for children.
4. Understands the causes and effects of social diseases.
5. Recognizes the contribution that medical science has made and can make through the individual's willingness to co-operate in the problem of controlling social diseases.
6. Appreciates the importance of diseases and recognizes the value of preventive medicine and scientific treatment.

References:

C. P. Hickman, *Physiological Hygiene*. Prentice-Hall. 1937. Chap. 13, 16.

C. E. Turner, *Personal and Community Health*. Mosby. 1935, pp. 269-298.

5. OUR RESPONSIBILITY FOR THE DEVELOPMENT OF BETTER HEALTH CONDITIONS

Objectives:

1. To understand and appreciate our present health progress.
2. To realize the great possibilities for the future development of health conditions in all related fields.

Activities:

1. Make a study of present services rendered in your community by the departments of health.
2. Make a list of the diseases that are now being controlled by medical science.
3. Analyze the various services rendered by the social service agencies.
4. Make a study of the various recreational and social services that are available in the more progressive communities.
5. Analyze the objectives of the various civic clubs in your community.
6. Invite various ministers and lay officials of the churches to outline their programs to the members of the class.
7. Evaluate the current attitude of the home toward responsibility for the social, spiritual and emotional welfare of its members.
8. Encourage each member of the class to make a self analysis regarding his attitude toward experimentation in matters related to medicine, social service and public health practices.
9. Discuss such topics as cremation versus burial for disposition of the dead, post-mortems, autopsies and similar topics in which we ordinarily have fixations in attitude.
10. Discuss unsatisfactory social conditions as they are found and encourage people to suggest ways in which the conditions might be eliminated or remedied.
11. Discuss problems that are debatable and that require the individual to withhold judgment pending the presentation of all the evidence.

Outcomes. Evidences of pupil growth:

1. Appreciates the contributions and sacrifice that have brought us to our present state of civilization.

2. Realizes that progress is dependent upon a person being open-minded both from the standpoint of an individual and as a member of society.
3. Recognizes the importance of a scientific attitude toward change and its implications.
4. Desires to sacrifice self for the improvement and development of society in general.

References:

- C. P. Hickman, *Physiological Hygiene*. Prentice-Hall. 1937. Chap. 23.
- C. E. Turner, *Personal and Community Health*. Mosby. 1935, pp. 478-496.

SAMPLE TEACHING UNITS

The following integrated teaching units which have been developed are suggested as especially valuable as aids in planning a health instruction program in the junior-senior high school:

Arkansas Tuberculosis Association, Little Rock.

"Preventing Tuberculosis" A Teaching Unit for Junior and Senior High Schools prepared by the National Tuberculosis Association.

Arkansas Women's Christian Temperance Union, Little Rock.

"Protecting the Nervous System from Beverage Alcohol."

Arkansas Cooperative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*, Secondary Section, Bulletin V. State Department of Education, Little Rock. 1936.

"How Man Has Learned to Protect Himself from Communicable Diseases," pp. 60-61, 191-195.

"Improving Health Through Adjustment to Natural Environment," pp. 40-41.

"Contributing to Personality and Social Adjustment Through Personal Grooming and Good Manners," pp. 58-59.

"Providing for Wholesome Recreation," p. 73.

"Conserving Human Welfare by Increased Emphasis on Health," pp. 84-85.

Ruth E. Grout, *Handbook of Health Education*. Doubleday. 1936.

"Ventilation," pp. 143-144.

"Sleep," pp. 144-147.

"Correcting Physical Defects," pp. 233-235.

"Improving Our School Water Supply," pp. 239-242.

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Free Pamphlets and Bulletins

American Medical Association, Chicago.
 American Public Health Association, New York.

The Control of Communicable Diseases

- American Red Cross, Washington, D. C.
 American Social Hygiene Association, 105 W. Fourth Street,
 New York.
 Arkansas Women's Christian Temperance Union, Little Rock.
 Arkansas Tuberculosis Association, Little Rock. Teaching Kits
 for Secondary Schools:
 Tuberculosis Problems—Scientific Approach.
 Tuberculosis Problems—Historical Approach.
 Tuberculosis Problems—Statistical Approach.
 Arkansas State Board of Health, Little Rock.
 "Malaria," "Typhoid Fever," "Tuberculosis."
 General Biological Supply House, 761 East 69th Pl., Chicago, Ill.
 "Our Common Diseases and the Germs That Cause Them."
 General Foods Corporation, Chicago.
 Health Education League, Boston.
 International Harvester Company, Chicago.
 Get the Fly.
 John Hancock Mutual Life Insurance Company, Boston.
 Living the Healthy Life.
 About Tuberculosis.
 Johnson and Johnson, New Brunswick, N. J.
 Typhoid Fever and Allied Diseases.
 Contagious and Allied Diseases.
 A Book with a Mission.
 Metropolitan Life Insurance Co., One Madison Ave., New York.
 The Conquest of Typhoid Fever.
 Malaria; Its Cause and How to Prevent It.
 Tuberculosis.
 Prudential Life Insurance Co., Newark, N. J.
 The Common Diseases of Children.
 State Board of Health of Maine, Augusta, Maine.
 The Filthy Fly as a Disease Carrier. Circular No. 122.
 Bubonic Plague. Circular No. 122.
 United States Department of Agriculture, Washington, D. C.
 Fleas. Bulletin No. 248. Free.
 Experiments in The Destruction of Fly Larvae in Horse
 Manure. Bulletin No. 200.
House-Flies. Bulletin No. 679.
 The Maggot Trap in Practical Use; an Experiment in House-
 Fly Control. Bulletin No. 200.

United States Public Health Service; Washington, D. C. Supplement No. 18 to the Public Health Report. *Malaria; Lessons on Its Cause and Prevention.*

VISUAL EDUCATION MATERIAL

Motion Picture Films.

Arkansas Tuberculosis Association, Little Rock.

Behind the Shadows.

Story of My Life by a Bee.

Let My People Live.

Bray Productions, Inc., 729 Seventh Ave., New York, *The Fly as a Disease Carrier.* (Rent).

Carter Cinema Producing Corp., 551 Fifth Ave., New York, *Malaria and the Mosquito.* (Rent).

National Motion Picture Co., Indianapolis. *The Rat Menace.* (Rent).

E. R. Squibb & Sons, 80 Beekman St., New York. *How Science Aids in Controlling Infectious Diseases.* (Free).

Educational Film Exchanges, New York. *The Fly.* (Rent).

Church Film Co., 1108 Baylston St., Boston, *The House-Fly.* (Rent).

Slides and Filmstrips.

Arkansas Tuberculosis Association, Little Rock.

Keystone View Company.

Six units of lantern slides consisting of subjects on human anatomy for use in high school classes in health.

FILM STRIPS ON HEALTH HEROES

Graphic Material.

Arkansas Tuberculosis Association, Little Rock.

Tuberculosis—A Primer of Basic Facts in Pictures.

Landmarks of Progress.

Essential References for Teachers

Diehl, H. S., *Healthful Living*, McGraw-Hill. 1935.

Smith, Helen N. and Coops, Helen L., *Physical and Health Education*. American Book Company. 1938.

Turner, C. E., *Personal and Community Health*. Mosby. 1935.

Turner, C. E., *Principles of Health Education*. Heath. 1939.

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Blount, Ralph, *Health, Public and Personal*. Allyn and Bacon. 1936.

Brock, G. D., *Health Through Projects*. Barnes. 1932.

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Harvey, B. C. H., *Simple Lessons in Human Anatomy*. American Medical Association, Chicago. 1931.

Hill, Charles A., *A Manual of Normal Histology and Organo-graphy*. Saunders. 1931.

Keleher, Alice E., *Life and Growth*. Appleton-Century. 1938.

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Meredith, F. L., *Twelve Hours of Hygiene*. Blakiston. 1932.

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Sherman, H. C., *Chemistry of Food and Nutrition*. Macmillan. 1926.

Smiley, D. F. and Gould, A. G., *A College Textbook of Hygiene*. Macmillan. 1934.

Williams, J. F., *A Textbook of Anatomy and Physiology*. Saunders. 1935.

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Health and Safety Education, Bulletin No. 124. Indiana State Department of Public Instruction, Indianapolis. 1939.

BOOKS FOR PUPILS

Burkard, Wm. E., Chambers, Raymond L., and Maroney, Frederick W., *Personal and Public Health*, Lyons and Carnahan. 1937.

Clement, Arthur G., Collister, Morton C., and Thurston, Ernest L., *Our Surroundings*. Iroquois. 1931.

Corradini, Robert E., *Narcotics and Youth To-Day*. Foundation for Narcotics Research, 150 Fifth Ave., New York. 1934.

DeKruif, Paul, *Microbe Hunters*. Harcourt. 1926.

Emerson, Haven, *Alcohol, Its Effects on Man*. Appleton-Century. 1936.

Fishbein, Morris, *Fads and Quackery in Healing*, Blue Ribbon Books, Inc., New York, 1932.

Fishbein, Morris, *Shattering Health Superstitions*. Liveright. 1930.

Harding, T. Swan, *The Popular Practice of Fraud*, Longmans. 1935.

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Lake, Charles H., Harley, Henry P. and Walton, Louis P., *Exploring the World of Science*, Silver, Burdett. 1934.

Powers, Samuel R., Neuner, Elsie F. and Bruner, Herbert B., *Man's Control of His Environment*, Ginn. 1935.

Regenstein, Anna B. and Teeters, William R., *Science at Work*, Rand, McNally. 1935.

Skilling, William T., *Tours Through the World of Science*, McGraw-Hill. 1934.

Smallwood, W. M., Reveley, Ida L. and Bailey, Guy A., *New Biology*, Allyn and Bacon. 1934.

Thomason, George and Baker, A. L., *Science Speaks to Young Men on Liquor, Tobacco, Narcotics, and Marijuana*. Pacific Press. 1939.

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Walton, Everett P. and Foss, Philip E., *Social Biology*. Blakiston. 1936.

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Williams, J. F., *Healthful Living*, Macmillan. 1934.

Wood, George C. and Carpenter, Harry A., *Our Environment, How We Use and Control It*, Allyn and Bacon. 1934.

VI. SAFETY EDUCATION

SAFETY EDUCATION IN THE JUNIOR HIGH SCHOOL

The multiplication of the hazards of modern living has resulted in an alarming increase in accident fatalities and injuries. To these hazards children are increasingly exposed. It is estimated by the National Safety Council¹ that for the year 1935, in the United States, 284,000 children under fifteen years of age were injured, and 14,200 killed in accidents. Inasmuch as most accidents can be attributed to insufficient knowledge, skill, or judgment and to an attitude of carelessness or recklessness on the parts of persons involved, it is clear that accidents can be greatly reduced by safety education.

OBJECTIVES OF SAFETY EDUCATION IN THE SECONDARY SCHOOL

The immediate objectives of a program of safety education in the secondary school according to the educational leaders in this work are:

1. To reduce the increasing toll of traffic accidents among persons of high school age.
2. To prepare the youths of today to support sound traffic programs so as to be better prepared to cope efficiently with traffic problems.
3. To prepare high school youths to shoulder the responsibilities involved in the operation of a motor vehicle.
4. To teach youths the elements of the automobile, their functions, maintenance, and operation.
5. To assist in training youths to drive an automobile.
6. To develop the formation of safe driving habits.
7. To teach the significance and reasonableness of traffic laws.

¹"Accident Facts," National Safety Council. p. 1.

8. To have better qualified drivers in the future.
9. To develop a better understanding of the significance and value of signals, signs, and markings.
10. To know the most common defects of motor vehicles.
11. To be more interested in safety than in showing off.
12. To be willing to share one's part of responsibilities.
13. To know that failure to obey the law is a sign of mental weakness.
14. To learn what the nation is doing to promote highway safety.
15. To know why there are so many accidents on our streets and highways.
16. To know the speed limits on streets and the open highways.
17. To have a knowledge of the natural forces affecting driving on streets and highways.
18. To know that a majority of accidents are preventable.
19. To avoid accidents caused by bonfires.
20. To prevent injuries caused from firecrackers.
21. To avoid injuries from people falling.
22. To avoid injuries from falling from elevations.
23. To prevent injuries from falling from a building under construction.
24. To avoid bicycle accidents caused by hanging to buses, cars, and in riding on the highways.
25. To confine the use of fireworks to those who are trained to handle same.
26. To avoid the loss of life in the drowning of so many young persons.

SCOPE OF A SAFETY EDUCATION PROGRAM IN THE
JUNIOR HIGH SCHOOL

Training in safety involves knowledge, skills, habits, and attitudes applicable in all the major areas of experience in which such training will be expected to function, both in child and adult life, in home, school and community, in travel, in work, and in recreation.

SUGGESTED UNIT AREAS

Since safety education is personal, social, and applicable in every day life it can generally be taught most satisfactorily in connection with the natural or the social sciences. When organized into a few well-selected units and integrated with other subjects, safety education naturally falls into and becomes a part of the core curriculum. The unit areas suggested for the junior high school grades are:

1. Safety in the Home.
2. Protection Against Fire.
3. Safety on the School Bus.
4. Safety on the Street and Highway.
5. Safety on and in the Water.

SUGGESTED TEACHING PROCEDURES

To teach safety effectively one must first create an interest on the part of the child. This can easily be done by making use of pictures taken from the daily newspapers and magazines and by using clippings from papers giving accounts of serious accidents. Very often it is possible to use an accident that has happened in a local community. The mention of any of the above will lead readily to a class discussion in which the teacher can lay the desired foundation.

The following outlined materials should be used in planning units of work within the areas suggested for the junior high school.

1. SAFETY IN THE HOME

Objectives:

1. To promote safety in the use of combustible fuels.
2. To provide knowledge of safety in the basement.
3. To promote safety in halls and on stairways.
4. To promote safety in the use of fire and electricity.
5. To provide knowledge of treatment and first-aid for injuries.

Activities:

1. Dramatize right and wrong ways of connecting electrical appliances commonly used around the home.
2. Make a survey of the home, listing all hazards, such as dangerous steps, defective railings around porches, stairways, rotten boards in the floors, ladders, dead limbs in the shade trees.
3. Bring to class a list of first aid rules applicable to the following types of accidents: burns, falls, scalds, drowning, cuts, punctures, and sprains.
4. List all the first aid equipment needed in the home.
5. Make a list of all accidents which have happened in your home during the last year.
6. Have the local doctor or nurse come before class and demonstrate correct dressing for wounds commonly treated in the home.
7. Think of something that you do for a hobby and explain how you carry it on safely.
8. Make a poster to emphasize the dangers in the use of matches.

9. Prepare a brief talk on the topic, "Preventing falls in the home."
10. Demonstrate before the class how a pocket knife or a pair of scissors may be used with safety.
11. Explain to the class how a dog, or other pets, can be trained to that it will be safe and friendly.
12. Plan a clean-up campaign to get rid of insect pests in your community.
13. Find out how much it would cost to pay the doctor's bill for a very badly sprained ankle. Compare this cost with cost of putting a non-skid pad under the small floor rug.
14. If you have a young brother or sister in your home, study the possibilities of injury to the child and discover what can be done to promote his safety.
15. Prepare a talk for your English class on, "How I Can Help Make My Home Safe."

References:

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Hausrath, A. H. Jr. and Harms, J. H., *Consumer Science*. Macmillan. 1939, pp. 592-612.

2. PROTECTION AGAINST FIRE

Objectives:

1. To recognize the loss of life and property due to fires.
2. To learn the common causes of fires.
3. To learn common sense precautions against fire.

4. To learn what should be done in emergencies involving fire.
5. To learn what communities do to prevent and combat fires.
6. To engage actively in home, school, and community fire prevention activities.

Activities:

1. Discuss personal experiences with fires, their causes, whether they could have been prevented, extent of loss, etc.
2. Arrange on paper or on the blackboard, data obtained from the experiences of members of the class, as a lead to further investigation of the problem.
3. List the chief causes of fires. A committee may compose a master list from individual lists submitted.
4. Draw a map of the community, showing present fire hazards, such as, vacant lots grown up in weeds and grass, piles of old lumber and rubbish, crowded wooden buildings, buildings without fire escapes, etc.
5. Indicate on the map locations of past fires and their causes.
6. Write the history of the local fire department.
7. Interview the fire chief or members of the fire department.
8. Study the work of firemen, their duties, qualifications, and training.
9. Study methods by which the local fire department might be improved.
10. Find out how fire regulations are made for the community, what some of the most important rules are and whose duty it is to see that they are obeyed.

11. Take home-inspection blank to parents to be filled out and returned.
12. Organize a fire prevention campaign. Report on work done.
13. Collect newspaper items, magazine articles, pictures, posters, and cartoons illustrating fire prevention, fire fighting apparatus, losses caused by fire, fire department activities and regulations, etc.
14. Read stories on the heroism of firemen.
15. Write stories with plots involving fires and firemen.
16. Do research work on subject of the great London fire, and Chicago fire, the Moro Castle disaster, and others.
17. Study rules for emergency action in case of fire, how to rescue a person from a burning building, how to escape from a smoke-filled room, what to do if one's clothing catch on fire and how to turn in a fire alarm.
18. Learn the principle of the fire extinguisher, how the automatic sprinkler operates, and how to extinguish a fire starting under the hood of an automobile.
19. Read about the various kinds of escapes.
20. Pupil-conducted school fire drills, members of the class plan and explain to other classes the procedures to be followed in vacating the building.
21. Report on personal experiences with forest fires or on stories read and heard about forest fires.
22. Read to learn the various kinds of losses resulting from forest fires.
23. Find out what the state and nation do to protect the forests from fire.

24. Study the work of the forest ranger, his training and qualifications.
25. Make a bar graph showing the yearly loss per person for fires in Great Britain, France, Germany, Australia, Switzerland, Holland, and the United States.
26. Find out how public control of building operations provides an important safeguard against fires.
27. Find out what fire prevention measures generally taken in Europe are neglected in our country.
28. Study methods of making buildings fireproof.
29. Write to the state fire marshal for rules governing the condemnation of a public building as a fire trap.
30. Find out fire insurance rates in the community, comparing with rates in other communities, explaining probable reasons for differences found in rates, etc.
31. Explain the statement, "Fire insurance is a tax we must all pay."
32. Compute the number of homes that could be bought at \$5,000 each with the money lost in fires annually, the number of unemployed people who might be given work for one hundred days at \$3 per day, and other needed expenditures that could be made from fire losses.
33. Plan a Fire Prevention Week program. The class might be divided into several groups, each with specific duties in planning the activities of that week, such as, making posters, writing items for the school paper and for the local newspaper, making talks before pupils in the lower grades, etc.

34. Give an assembly program, play, or pageant as a culminating activity of Fire Prevention Week or of the unit.

References:

- Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939. pp. 32-33, 48-50, 58-61, 271.
- Matthews, J. C., Risinger, J. L., and Wilson, Jimmie, *Safely on We Go*. Banks Upshaw. 1938. pp. 124-141.
- International Harvester Company, Chicago.
- The Best Way to Stop a Fire Is to Prevent It From Starting*. National Board of Fire Underwriters, 85 John Street, New York.
- Safeguarding the Home Against Fire*. Insurance Company of North America, Philadelphia.
- The White Fireman in the Home*. National Fire Protection Association, Boston.
- Keep Your Home from Burning*. *It's Dangerous*.
- American-Lafrance Foamite Corporation, Elmyra, N. Y.
- Man's Enemy Since the Beginning of Time*. *A Story of Progress*.

COURSES OF STUDY

Protection Against Fire, Pennsylvania State Department of Public Instruction. Harrisburg.

Fire Prevention Handbook for Texas Public Schools. Texas State Department of Public Instruction, Austin.

3. SAFETY ON THE SCHOOL BUS

Objectives:

1. To realize that serious injuries and loss of life are due to bus accidents.
2. To learn the common causes of bus accidents.
3. To learn common sense precautions against accidents.
4. To learn what should be done in emergencies involving bus accidents.
5. To learn what communities do to prevent accidents.
6. To engage actively in the prevention of accidents involving buses and riders.

Activities:

1. Discuss personal experiences in motor accidents, their causes, whether they could have been prevented, extent of loss, and the like.
2. List the chief causes of accidents. A committee may compose a master list from individual lists submitted.
3. Indicate on the map locations of past accidents and their causes.
4. Interview the bus drivers.
5. Read stories on the heroism of various bus riders.
6. Study rules for emergency, in case of accident.

Outcomes. Criteria for evaluation:

1. Pupils look upon the driver as the person in charge, obey his directions cheerfully, and avoid conversing with him while he is busily engaged.
2. Pupils obey the directions of monitors or patrols.
3. Pupils maintain the same conduct, except for conversation, that are observed in the classroom.
4. Pupils keep their heads and arms inside when the windows are open.
5. Pupils help to keep the bus clean and sanitary.
6. Pupils are ready when the bus comes in the morning.
7. Pupils stand off the pavement while waiting for the bus to arrive.
8. Pupils attempt to get on and off only when the bus is standing still.
9. Children look out for approaching automobiles and trucks when getting on or off the bus.

References:

Brownell, C. I., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand, McNally. 1939, pp. 110-112.

Matthews, J. C., Risinger, J. L., and Wilson, Jimmie, *Safely on We Go*. Banks Upshaw. 1938, pp. 47-58.

Evans, W. A., Fry, Mattie B., *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 97-101.

4. SAFETY ON THE STREET AND HIGHWAY

Objectives:

1. To familiarize pupils with the various traffic regulations.
2. To promote travel safety by bicycle, skates, and the like.
3. To provide for the safety of the pedestrian.
4. To know lights and road signs and their significance.
5. To know the proper methods of riding street-cars and buses.
6. To understand the proper safety regulations, regarding street playing.

Activities:

1. Locate hazardous cross streets of the city.
2. Bring to class newspaper accounts of highway accidents.
3. Make poster illustrating some highway accidents.
4. Secure safety pictures and show them to the pupils.
5. Have some pupils illustrate safe and unsafe pedestrian practices by chalk talks.
6. Discuss crossing the streets without stop lights, alone or in groups, with or without traffic officers.

7. Dramatize right and wrong ways of :
 - a. Crossing the street.
 - b. Walking down the highway.
 - c. Signalling.
 - d. Entering and alighting from cars.
8. List traffic regulations a bicyclist should observe.
9. Write a story on how an accident was prevented.
10. Talks by highway patrolman on the dangers on our highways.
11. Read about some good pedestrian safety practices. Select some pupils to observe traffic for an hour and report findings.
12. Discuss courtesy practices to pedestraings and children riding on skates, triecycles, and bicycles.
13. Discuss the value of having policemen use loud speakers to instruct traffic offenders.
14. Discuss the relative values of taking traffic offenders on a visit to the city morgue.
15. Design a poster that will emphasize the need of walking or driving safely.

References:

FOR PUPILS

Kreml, F. M., Stiver, D. F., and Rice, T. B., *Public Safety*. Dobbs-Merrill. 1937, pp. 147-251.

Hausrath, A. H. Jr., and Harms, J. H., *Consumer Science*. Macmillan. 1939, pp. 613-656.

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FREE PAMPHLETS

See references on this unit area for the Senior High School, p. 96.

5. SAFETY ON AND IN THE WATER

An outline of this unit is not included here. It should, however, be regarded as a very important area on the junior high school level.

References:

Kreml, F. M., Stiver, D. F., and Rice, T. B., *Public Safety*, Bobbs-Merrill. 1937, pp. 111-133.

Matthews, J. C., Risinger, J. L., and Wilson, Jimmie, *Safety on We Go*. Banks Upshaw. 1938, pp. 176-177, 276-278, 301-311.

Pamphlets published by the American Red Cross:

Red Cross Life Saving Methods.

Swimming and Diving.

SAMPLE TEACHING UNITS

A list of integrated teaching units and a general bibliography of materials suitable for the junior-senior high school grades are given on pages 101-102.

SAFETY EDUCATION IN THE SENIOR HIGH SCHOOL

In 1933 President Roosevelt wrote the Safety Council and Exposition at Chicago:¹

The conservation of human life, and the prevention of accidental injury, is of vital importance to our welfare and happiness. While much progress has been made in accident prevention during the past two decades, particularly in the field of industry, there is still much that should be done.

We sacrificed 88,000 lives through accidents last year (1932). Approximately 9,000,000 people were injured. The economic costs run close to \$2,000,000,000. The social cost is immeasurable. Briefly stated, that is our national accident problem, and it certainly offers a most serious challenge to the American people.

The challenge is even more serious now. In 1936, three years after the President's message, 111,000 citizens of the United States were accidentally killed; about 10,730,000 were injured; and the nation's economic loss from accidents was estimated at about \$3,700,000,000.

High schools must accept the responsibility of teaching safety habits and practices to the youth of today. Attitudes must also be stressed which will enable these young men and women to protect themselves and society from accidental deaths and disabling injuries. This can be accomplished by creating individual desires to develop safety habits, practices, cooperation, and willingness to accept responsibility.

SUGGESTED UNIT AREAS

1. Safety on the Street and Highway.
2. Safety at Work.
3. Safety Travel by Air and Rail.
4. Safety Through Cooperation.

SUGGESTED TEACHING PROCEDURES

All schools should make definite provision for safety education. The units suggested above can in most in-

¹Evans, W. A., Fry, M. B., *Safety, Your Problem and Mine*, Lyons and Carnahan. 1938, pp. 18-19.

stances be taught most satisfactorily by adopting a plan of integration with other subjects. The laboratory sciences, the social sciences, English, dramatics, vocational courses, and physical education are fields in which one or more units in safety education can be integrated. When the social science class is making a study of travel, this is an appropriate time to study highway safety. The methods and procedure of teaching safety education in one school may not prove to be practical in another school, but the teachers in each school have a definite obligation in determining the specific place in their program that will best serve the needs of the pupils of that particular school.

1. SAFETY ON THE STREET AND HIGHWAY

Objectives:

1. To acquire skill in the operation of an automobile.
2. To know the extent, cause, and methods of preventing automobile accidents.
3. To know the local and state traffic laws and regulations and the necessity for each.
4. To determine how and what should be done in case of an accident.
5. To know the necessary precautions to take when driving under usual or unusual conditions.
6. To know street and highway etiquette.

Activities:

1. Have students conduct a survey of local automobile accidents. Let them visit police, traffic officials, garages, and the morgue. Have them collect statistics and facts from all sources concerning trends in automobile accidents.
2. Let the class secure local and state regulations governing traffic, parking, speed, and driver specifications. Determine the necessity for such regulations.

3. Let the students, through reading and observation, determine what the street or highway hazards are, also any hazards that might develop due to inclement weather or unusual circumstance. Then, through a class discussion on the information gathered, designate the most effective method of prevention.
4. Secure an automobile from a sales agency or any other source in the community. Have either the teacher or an expert driver teach the proper skills in driving. This must be done under teacher supervision.
5. Take the class on a field trip to the scene of an accident and determine the cause and means of prevention.
6. Dramatize the passing of cars, animals, other vehicles, and pedestrians. This is an excellent opportunity to emphasize courtesy and etiquette.
7. Organize a student safety council. This organization can conduct a safety patrol, fire drill, assembly programs, and in general they can be the most active organization on the campus is carefully and tactfully organized.
8. Invite a local or state traffic official to talk to the class or in assembly on highway safety.
9. Make a field trip to a garage and see some badly wrecked automobile. Ask the mechanic to point out mechanical defects that cause accidents, stressing the most dangerous.
10. Let students make a bulletin board display of posters, clippings, and drawings of material pertaining to safety on streets, highways, or on railway crossings.
11. Let students review junior high school safety activities.

References:

FOR PUPILS

Brownell, C. L., Ireland, A. G., Towne, C. F., *Adventures in Safety*, Rand, McNally. 1939, pp. 197-238.

Kreml, F. M., Stiver, D. F., and Rice, T. B., *Public Safety*. Bobbs-Merrill. 1937, pp. 147-251.

Evans, W. A., and Fry, Mattie B., *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 203-244.

Hausrath, A. H. Jr., and Harms, J. H., *Consumer Science*. Macmillan. 1939, pp. 613-656.

American Automobile Association, *Sportsman-like Driving*. 1938.

Floherly, J. J., *Youth at the Wheel*. Lippincott. 1937.

Fitzgerald, J. A., Hoffman, C. A., Bayston, J. R., *Drive and Live*. Johnson. 1937.

FREE PAMPHLETS

Automobile Manufacturing Association, 366 Madison Avenue, New York.

Automobile Facts and Figures.

American Legion, Indianapolis, Indiana.

The American Legion and the Traffic Accident Problem.

Arkansas Highway Department, Little Rock.

Safe and Sane Driving.

National Safety Council, Chicago.

Safe Driving.

Too Long at the Wheel.

Travelers Insurance Company, Hartford, Connecticut.

Death Begins at 40.

Worse Than War.

Thou Shalt Not Kill.

Highway Hazards.

International Harvester Company, Chicago.

I Drive Safely.

General Motors Corporation, Department of Public Relations, Detroit, Michigan. *We Drivers*.

Chemistry and Wheels.

Chrysler Motor Corporation, Plymouth Division, Detroit, Mich.

Street and Highway Safety.

FILMS AND SLIDES

Travelers Insurance Company, Hartford, Connecticut.

Highway Safety First. (16 mm.)

Aetna Life Insurance Company, Safety Education Department, Hartford, Connecticut.

Street and Highway Safety. (16 mm.)

Driver Training. (16 mm.)

American Automobile Association, "35 Standard Slides," Sportsmanlike Driving Series.

General Tire and Rubber Company, Akron, Ohio.

Human Mileage. (16 mm.)

Keystone View Company. Unit of 30 slides on "Safety on the Highway."

2. SAFETY AT WORK

Objectives:

1. To learn about the accidents, their causes, and their prevention in agriculture and industry.
2. To develop aptitude in the use of machinery and tools.
3. To realize the importance of caution when working under unfavorable conditions, with poor equipment, or in unusual situations.
4. To know first aid and proper care in case of injuries.

Activities:

1. Let the students gather data and classify the types of accidents in the various occupations, noting the most frequent ones by graphs.
2. Take students on a field trip to farms and industries in the community and determine the hazards and means of elimination.
3. Let each student determine and list all hazards connected with the industry or occupation in which his parents are connected, and the safety measures necessary to remove each.
4. Have each student list the hazards connected with his daily tasks in school, home, and community. After a general class discussion, list various methods of elimination.
5. Invite a speaker from some industry or insurance company to speak on industrial safety.
6. Find out what safety measures have been taken by the community, state, and nation to protect workmen.

7. Show a film on safety. If the school does not have the facilities, see your local theater manager.
8. Have students demonstrate the safe use of tools most commonly used around the home.
9. Have student's essays on bodily protection in some of the hazardous occupations.

References:

FOR PUPILS

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand McNally. 1939, pp. 127-160.

FREE PAMPHLETS

Aetna Casualty and Surety Company, Hartford, Connecticut.
Let's Be Skillful.

American Red Cross, Washington, D. C.
Injuries on Home and Farm.

Lecture and Group Discussion Course on Home and Farm Accidents.

Metropolitan Life Insurance Company, Welfare Division, New York.

How Safe Is Home.

First Aid.

Industrial Safety Education in Schools.

United States Department of Commerce, Superintendent of Documents, Government Printing Office, Washington, D. C.

How to Stop Farm Accidents.

Underwriters Laboratory, Inc., 207 East Ohio Street, Chicago.
Accident Hazard Appliances.

FILMS

United States Steel Corporation, New York.
Safety Wins. (35 mm.)

Travelers Insurance Company, Hartford, Connecticut.
Lady Luck's Husband. (35 mm.)

3. SAFETY TRAVEL BY AIR AND RAIL

Objectives:

1. To learn some things about the hazards of traveling by rail, water, and air.

2. To know and accept the responsibilities of the passenger and layman for promoting safe traveling.
3. To realize the dangers connected with travel during inclement weather.

Activities:

1. Have students interview officials of railroads, airlines, and possibly steamship companies to determine the types and causes of accidents in their particular work.
2. Make a field trip to the airport, railway station, or docks and secure all possible first-hand information concerning travel accidents in these fields.
3. Find out what safety precautions rail companies and airlines take to prevent accident to both passengers and employees.
4. Let students collect reports from newspapers and the radio pertaining to accidents in these three fields and determine the cause of each. Then make a graph of the different causes to see what the trends are.

References:

FOR PUPILS

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand McNally. 1939, pp. 239-264.

Evans, W. A., and Fry, Mattie B., *Safety, Your Problem and Mine*. Lyons and Carnahan. 1938, pp. 245-260.

Boy Scouts of America, *Boy Scout Handbook*, pp. 128-130, 196-203.

Building America. Hale. Vol. 1, No. 3, "Transportation;" Vol. 2, No. 2, pp. 6-7, 14-15.

FREE PAMPHLETS

Committee on Public Relations of the Eastern Railroads, 143 Liberty Street, New York. Posters and publications on safety in railway transportation.

Any airport or airlines company, railway station or railway company will distribute literature on safety pertaining to their companies.

4. SAFETY THROUGH COOPERATION

Objectives:

1. To develop a cooperative attitude in school, community, home, and society.
2. To know the meaning of cooperation with various community organizations.
3. To realize the importance of one's personal responsibility to society.
4. To know that knowledge without actual practice is not enough.

Activities:

1. Let the students make a class scrap book from newspaper and magazine articles of news and pictures pertaining to accidents.
2. Visit a factory or some type of industry and ask an official to point out specific examples of cooperation between the different groups or departments, the results of working in unison, and what might happen if any one person failed to cooperate.
3. Ask some law enforcement official to talk to the class on the results obtained through cooperation of local, county, and state law enforcement agencies, with the citizens of the community.
4. Make a study of the operation of the United States Weather Bureau. Show how necessary cooperation is in this field.
5. Let the students prepare a list of specific things to do in their daily life to cooperate with the public in a program for safety. Make a set of rules which they may follow to promote safety and benefit to others.

6. Let pupils dramatize the necessity for cooperation at street crossings, between cars, and between cars and pedestrians.

References:

FOR PUPILS

Brownell, C. L., Ireland, A. G., and Towne, C. F., *Adventures in Safety*. Rand McNally. 1939, pp. 265-297.

Evans, W. A., and Fry, Mattie B., *Safety, Your Problem and Mine*. Lyon and Carnahan. 1938, pp. 261-281.

Building America. Hale. Vol. 2, No. 2, pp. 24-27.

FREE PAMPHLETS

Metropolitan Life Insurance Company, New York.

How to Promote Community Safety.

National Safety Council, Chicago.

New War on Accidents.

SAMPLE TEACHING UNITS

Very few satisfactory integrated teaching units in safety education adapted to the secondary school level have been developed. The following are suggested as aids to teachers in the organization of their instructional materials:

Arkansas Cooperative Program to Improve Instruction, *A Tentative Course of Study for Arkansas Schools*, Secondary Section. Bulletin V. State Department of Education, Little Rock, 1936.

"Providing for Public Protection and Safety Through Organizations in the community," pp. 70-71.

Sportsmanlike Driving, American Automobile Association, Washington, D. C. 1938.

"The Driver."

"Driver and Pedestrian Responsibilities."

"Sound Driving Practices."

"Society's Responsibilities."

"How to Drive."

Mississippi Cooperative Program for the Improvement of Instruction, *A Guide for Curriculum Reorganization in the Secondary Schools*. Bulletin V. State Department of Education, Jackson.

"Safeguarding Life and Health from the Effects of Scientific Inventions and Machines," pp. 94-100.

"Eliminating Fire Hazards in and Around the Home and School," pp. 115-118.

"Protecting Life and Property from Catastrophes Due to Nature," pp. 133-136.

Arkansas Automobile Club, Inc., Little Rock. 1938.

Suggested Units on Sportsmanlike Driving.

BIBLIOGRAPHY

In addition to the references previously listed, the following are recommended:

BIBLIOGRAPHIES

Bibliography of Safety Materials for the Use of Schools, Educational Division, National Safety Council, Chicago.

Contains a very complete bibliography of safety materials for schools.

Safety Education Through Schools, Research Bulletin, Vol. XVI, No. 5. National Education Association, Washington, D. C.

Contains a survey of the work of non-school organizations engaged in the field of safety education and lists the various publications or films which may be obtained from these agencies.

MAGAZINES

Safety Education, A Magazine of Good Adventure, published by the National Safety Council, Chicago.

Junior Red Cross Journal, published by the American Red Cross, Washington, D. C.

VII. PHYSICAL EDUCATION

PHYSICAL EDUCATION IN THE JUNIOR HIGH SCHOOL

In line with the accepted philosophy of the junior high school, the program of physical education for this level should present a broad scope of activities suitable to the needs of early adolescents. It should not be assumed that the entire program may be adopted in all junior high school situations. On the other hand, a sufficient wealth of materials is provided so that any school may find suggestions for those experiences which seem most needed in that particular community. Enrichment is assured through the sampling of many kinds of activities and from such sampling the junior high school pupil is enabled to select those activities which are best suited to individual needs, capacities, and interests.

OBJECTIVES

The specific objectives of a physical education program on the junior high school level do not differ materially from those on the elementary school level. For this reason the same list of objectives is reemphasized here:¹

1. Prevent handicaps and improve physical efficiency.
2. Improve the individual's posture.
3. Decrease mental strain and improve mental health.
4. Develop symmetry, control and grace of bodily movement.
5. Develop ability to meet physical emergencies.
6. Develop alertness and quick response.
7. Develop an active response to rhythm.

¹N. N. Neilson and Winifred Van Hagen, *Physical Education for Elementary Schools*. Barnes. 1936, p. 6.

8. Develop courage, self-control, self-sacrifice, courtesy, kindness, loyalty, obedience, honesty, cooperation and initiative.
9. Create in youth an intelligent and healthful interest in physical activity and give to him a fund of activity material for use in leisure time.
10. Create an interest in the physical welfare of others.
11. Promote the desire for wholesome associations and recreation.
12. Develop the proper spirit toward victory and defeat.
13. Develop good character.
14. Develop the qualities inherent in leadership.

ADMINISTRATIVE ORGANIZATION

GROUPING OF PUPILS

The classification of pupils according to their individual needs is highly desirable. It is recommended that in the larger schools where enrollment permits the physical education classes be scheduled the first period in the morning and thereby enable the physical education teacher to classify the groups according to motor ability.

In the smaller high schools, the physical education classes may be composed of pupils from several grades. In this instance, the physical education teacher will adopt a method of grouping each class into sub-groups or squads according to ability.

Purpose. The grouping of the pupils in an ideal program should be based on their individual needs as discovered by a complete physical examination and as determined by a consideration of the following factors:

1. Physical—strength, endurance, skill.
2. Health—organic and nutritive.
3. Social training needs.
4. Mental health needs.

It is realized that all schools will not be able to adopt in its entirety this plan of classification of pupils for the classes in physical education, but they are urged to adhere to it as far as possible and adopt it as rapidly as conditons will permit.

It is the purpose of homogeneous grouping to provide the possibility for each pupil to achieve a maximum of progress in relation to his own capacity.

Methods. Subjective judgment should supplement objective test and measurement data.

1. Teacher's judgment based on experience, a subjective basis of grouping.
2. Objective tests and measurements supplemented by teacher judgment. This is preferred because it is more scientific and makes classification of pupils possible before they participate in the instructional and practice periods. The tests in addition to the teacher's opinion are considered as an aid to the teacher. In some special cases where the classification of the pupil effects an emotional upset, the teacher's personal judgment can make the necessary adjustment possible.
3. Types of tests:
 - Health examinations.
 - Strength index.
 - Age-grade-height-weight classifications.
 - Motor ability tests.
 - Achievement tests in motor skills.

Smaller schools will find the achievement tests for the motor skills or the age-grade-height-weight methods more practical for classification purposes.

ORGANIZATION OF TEAMS AND CLUBS

There should be definite organization of the class and of intramural and interschool programs as a part of the teacher's organization for leadership.

Pupil Leaders—Organization and Use of. A large number of the pupils should be trained in leadership. It is an important part of the program and use of leaders will assist in the efficient conduct of the activity.

1. Leaders may be used in all phases of the program:
 - a. Class:
 - Squad leaders.
 - Secretaries.
 - Monitors.
 - Assistants on the apparatus.
 - b. Intramural and inter-school:
 - Team captains.
 - Managers.
 - Instructors.
 - Officials.
 - Hosts.
2. Teachers should develop leadership by:
 - a. Delegating all possible tasks or details.
 - b. Creating desire in the pupils to achieve successful leadership by good example of natural leaders.
 - c. Conducting special classes for leaders.
3. In developing leadership the teacher should:
 - a. Let those with better average ability and desire to lead act as squad or class leaders first.
 - b. Demand a sense of responsibility and accuracy.
 - c. Stress courteous manner and sportsmanship.
4. Class organization for pupil leaders: Determine according to the size of the class and equipment the best number of squads and number of pupils in each squad. If there are 40 in the class, 5 groups of 8 each would be organized. Seven or eight candidates are nominated as group leaders, from which 5 are elected by the class. Cap-

tains choose sides for permanent groups. The captain who chooses last gets two choices each time or use the shuttle choice method. Each group may organize with a name, captain and secretary. Definite instructions will be given as to duties of each and materials specified or supplied for keeping of records, posting reports, etc. The groupings should remain permanent through the term but new captains may be elected at definite intervals.

Incentives.

1. *Auxiliary:*

- a. Bulletin Board—Pupil leaders, captains and managers may be delegated to assume much of the detail of posting work and publicity. It must be understood just what materials may receive space on this board in order to promote interest. The most important of the items to post on the bulletin board are:

Physical education season program or athletic calendar.

Achievement and skills test requirements.

Intramural schedules for current season.

Tournament, interschool standings.

Rules of the current team games with illustrations, diagrams or explanation of fundamental skills.

Timely news clippings; school paper items.

Library list—names of physical education books of interest for current season.

Announcements.

- b. Physical Education Office Library — The physical education teacher will have a personal professional library in his office that

will be representative of the many activities. Professional periodicals and journals should be included.

It is suggested that a small stand or shelf be placed under the bulletin board on which to place several books and magazines pertinent to the season; or to post a library list weekly or monthly calling the attention to the physical education books of the month or similar plan.

- c. Progress charts—promote interest.
- 2. *Special events.*
 - a. Contests and tournaments.
 - b. Demonstrations, P.-T. A. meetings, exchange programs, etc.
 - c. Festival, May days.
 - d. Play Day.
- 3. *Pupil Organizations.*
 - a. Leaders clubs.
 - b. Girls athletic association.
 - c. Extracurricular clubs:
 - First aid.
 - Apparatus.
 - Home Nursing.
 - Tumbling.
 - Dancing.
 - Fencing.
 - Hiking, etc.
- 4. *Awards.* Achievement awards, if any, should be simple and without material value. The following inexpensive awards are recommended:
 - a. Certificates, prepared by school press.
 - b. Badges.
 - c. School or class letters.

d. Insignia for leaders, captain, et al.

e. Recognition: In school publication; on bulletin board; on honor roll.

Sportsmanship and School Spirit. Teachers of physical education have the opportunity of exerting a big influence in the character building of pupils and must share in the responsibility. Through the organization of games and athletics and pupil leadership, if properly developed, much should be accomplished.

Likewise, the superintendents and principals, teachers and students are responsible for the school's reputation according to the degree of sportsmanship displayed during contests. This reputation will be remembered with favor or disfavor long after the contest results are forgotten.

The standard of the school spirit and sportsmanship will be improved if most of the following suggestions are incorporated in the physical education program.

1. Participation—strive for at least 80% participation of the enrollment in each activity. Participation alone goes a long way in teaching sportsmanship. This participation as a student will make the adult later either a participant or a more appreciative and intelligent spectator.
2. Adopt a code of sportsmanship for the school. The International Sportsmanship Brotherhood, Inc., issued a code that many hundreds of schools have pledged to. It is:

The Code of Honor of a Sportsman

He keeps the rules.

He keeps faith with his comrade, plays the game for his side.

He keeps himself fit.

He keeps his temper.

He keeps from hitting a man when he is down.

He keeps his pride under in victory.

He keeps a stout heart in defeat accepted with good grace.

He keeps a sound soul and a clean mind in a healthy body.

3. Suggestions and instructions to individuals and groups during group discussion periods and leaders' classes and posted on the bulletin board, will contribute to the development of the proper school spirit.

a. Team captains :

- (1) Feel responsibility of setting a good example.
- (2) Show good judgment in deciding need for registering a protest.
- (3) Make any protest in a gentlemanly manner.

b. Team Managers :

- (1) Write to the visiting team several days or a week before the game and confirm the terms of the arrangements.
- (2) Look out for the comfort of the visitors and furnish them any necessary supplies or equipment, in the dressing room and on the field.

c. Host and reception committee :

- (1) Send a cordial letter of welcome to the visiting team and give any directions necessary in finding school, etc.
- (2) Meet guests upon arrival and escort them to the dressing rooms.
- (3) Extend all possible courtesies and hospitality during their stay, naturally, as one would in one's own home.

- (4) Observe opportunity to introduce guests to members of the home teach, coach, officials and so forth.

d. Players :

- (1) Play the game for all it is worth, play fair at all times and hard to the end.
- (2) Keep training rules and obey orders of teacher or captain.
- (3) Do their best in all school work.
- (4) Give team their full backing, but always give opponents a square deal.
- (5) Are gentlemen or ladies representing the school.
- (6) Are respectful to officials and accept adverse decisions graciously and expect the officials to enforce the rules.
- (7) When losing, congratulate the winner and learn to correct faults through their failure.
- (8) When winning, be generous but modest and considerate. Above all, remain true to their ideals.

e. Team Costumes :

- (1) Neat and sensible, allowing freedom of movement.
- (2) Easily laundered.
- (3) Consistently carry distinguishing insignia or color.

f. Team Colors :

- (1) Use arm band, chest band, tie or stripes.
- (2) Avoid extremes or bows and ties that might annoy.

g. Cheer Leaders:

- (1) Show complete poise at all times.
- (2) Recognize good work by either team.
- (3) Discourage "up-stage plays" or grandstand actions.
- (4) Assist the team by showing good judgment in timing of cheers.
- (5) Work for encouragement of team—discourage personal achievement of cheer leader.
- (6) Assume responsibility of directing conduct of the spectators.

h. Physical Education—Teacher and Coach:

- (1) Realizes the tremendous influence he has in setting the example for the entire personnel of competitive contests.
- (2) Keeps his head at all times.
- (3) Has only objectives of sport in mind and holds each individual responsible to fulfill own obligations to the best of his ability.
- (4) Recognizes the fact that a team reflects his own spirit.
- (5) Does not seek victory at the expense of the health of a player.
- (6) Aim is not winning but character building of youth, honor of the school and team.
- (7) Never commits the unsportsmanlike behavior such as: Stepping on field of play; showing any loss of self-control; showing any resentment of referee's decisions; giving sideline coaching, and displaying disapproval during the game.

TECHNIQUE OF TEACHING

As a teacher of physical education, the director of physical education is also a leader and must possess qualifications and abilities which will make it possible for him to organize for leadership. The most important of these are:

1. Good professional preparation with a knowledge of the subject without having to refer to notes during a lesson.
2. A personal proficiency in the practice work and participation in games, fundamental skills and formal activities.
3. Ability to demonstrate skills.
4. Ability to give gymnastic signals clearly and directions precisely in a low and pleasant voice with use of good English.
5. Appreciation of values of physical education, occasionally pointing out the physiological effect of certain exercises.
6. Be observing, see the entire class, know the common faults and make suggestions while the class is in action.
7. Ability to organize, conduct intramural, inter-scholastic and tournament programs and officiate.
8. Knowledge of first aid.
9. Possess enthusiasm, loyalty, ideals of sportsmanship, social adaptability, initiative, be prompt, accurate, alert and tactful.
10. Knowledge of how to care for equipment and supplies.

Daily Preparation. The teacher of physical education must make the following preparation for each day's work:

Program. The program should be planned for the season, month, week and day. A definite program must be planned for each class instructional period, special classes, intramural and interschool programs.

Equipment. Such school and personal equipment as may be needed to carry out the plan of the various programs must be at hand and in good condition :

Whistle (Teacher's).

Supply of whistles for pupil leaders, sterilizer, and timing watch.

Measuring equipment, tapes, rods, etc.

Boards, pads, cards for record taking and scoring.

Personal professional notebook.

Record files.

Physical education office professional library.

First aid kit.

Mending kit (needle, thread, etc.)

Arrangements. Check temperature of gymnasium (if work is to be done indoors) and have windows properly adjusted. Arrange to have squad leaders or monitors prepare field or floor marking as will be needed in day's program. Placement of apparatus or supplies preparatory for lesson. Post notices on bulletin board.

General Suggestions. In conducting the class exercises the following general suggestions should be observed :

1. Begin and end class work on time.
2. Have definite alignment and organization for roll call by quickest method possible.
3. Have alert marching, quick rhythm, and cover ground.
4. Signal or command properly with good phrasing of the pause and a modulated, pleasing but forceful voice.

5. Observe special rhythms for special exercises: quick for arm and leg, slow for trunk and very slow for balance and head exercises.
6. Observe waning of the span of attention; keep the interest alert; avoid fatiguing repetition.
7. Be alert to correct common faults.
8. Designate physiological effects of various exercises at different intervals.
9. Keep the class active but punctuate the lesson with exercises of relaxation.

Roll Call Suggestions:¹ Order and respect for leadership are imperative in a worthwhile program. Some formality is necessary to successful administration of a class in physical education. Therefore, it is recommended that formality and discipline be demanded in the opening exercises of every class meeting. The opening exercise, including checking upon attendance, should not take more than five minutes.

If the class assembles in the gymnasium, it would be well to have numbers painted on the floor along the side. If these numbers are two inches high and are placed at least six inches outside or inside the sideline of the basketball floor, they will cause no confusion in basketball play. They should be of contrasting color to that of the sideline. The numbers should be at two-foot intervals and can be printed by the use of stencils.

Assign a number to each pupil with instructions to stand upon that number when the signal is given for assembling. A record of the numbered spaces vacant may be taken by the instructor within a very few seconds.

If classes assemble regularly upon the playground, the numbers may be painted upon the building a few inches from the ground.

If the squad organization is used, the squad leader will be held responsible to report the attendance of his squad.

¹*Physical Education and Health Education, A Course of Study for Secondary Schools*, Bulletin No. 113. State Department of Public Instruction, Indianapolis, Indiana. 1935, pp. 20-21.

Correlation with Other Subjects. The physical education program should as far as possible be correlated with other school subjects. Some of the courses and ways in which this dual emphasis can be made are:

Music—Cooperation between the physical director and music teacher to develop:

1. Posture—with the ultimate outcome of possessing physical poise.
2. Rhythm—development of rhythmic sense and coordinations.

English—by means of:

- | | |
|--------------------|-----------------------|
| 1. Essays; themes. | 3. Group discussions. |
| 2. Debates. | 4. Dramatics. |

Civics—by cooperating and participating in projects in:

1. Community recreation centers, stadium and settlements.
2. Community playgrounds.

Home Economics Department—

1. Diets.
2. School lunches.
3. Proper clothing for school and gymnasium.

Art Department—

1. Making posters and charts.
2. Appreciation of symmetry of physique.
3. Illustrations.

Manual Arts—

1. Objectives of physical labor.
2. Enjoyment of physical labor.

TEACHING AIDS

LESSON PLANS

The physical education teacher must prepare each lesson with the following factors in mind:¹

Class—each class is an individual unit and presents its own problem.

Variety—the lesson should provide an interesting variety and well-rounded activity.

Progression—in the selection of material, the point of progression at which each activity should be started should be determined.

Intensity—should be regulated for each class according to the needs.

Time Allowance—the content of the program will be well balanced if the time allowance for each activity is carefully planned and fulfilled. Class and team organization will economize time.

TYPICAL SIXTY-MINUTE LESSON

Indoor:

- | | |
|---|------------|
| 1. Dressing and taking roll..... | 5 minutes |
| 2. Calisthenics (to settle class)..... | 3 minutes |
| 3. Skills, or apparatus, or stunts, or games,
or contests, or dance..... | 37 minutes |
| 4. Showers, dress, dismissal..... | 15 minutes |

Outdoor:

- | | |
|---|------------|
| 1. Dress and roll call..... | 5 minutes |
| 2. Run or calisthenics..... | 5 minutes |
| 3. Game skills, or track and field practice
skills, or stunt skills, or games..... | 35 minutes |
| 4. Showers, dress, dismissal..... | 15 minutes |

¹*Physical and Health Education, Junior and Senior High Schools, Part III. State Department of Public Instruction, Dover, Delaware. 1934, pp. 40-42.*

TYPICAL DOUBLE-PERIOD LESSON

NINETY MINUTES, TWICE-A-WEEK

8:45	Hygiene -----	15 minutes
9:00	Dress in gym suit-----	5 minutes
9:05	Gymnasium lesson -----	50 minutes
9:55	Showers and dress-----	20 minutes
10:15	Dismissal -----	

Additional detailed teacher aids and suggestions are given by Neilson and Van Hagen.¹

PROGRAM OF INSTRUCTION

In this section a three-year program has been outlined for the junior high school grades containing eleven core activities and fourteen objective activities as shown in Table I. In Table II this general program has been broken down into yearly programs wherein the seventh and eighth grades take the core program and the ninth grade takes the electives. These activities have been scheduled by seasons. Table III takes the yearly schedule and breaks it down into a monthly-weekly-daily schedule. The example given is for the month of September for the seventh grade. A similar schedule for the other months and grades can be made by selecting the activity from Table II and the fundamentals with teaching sequence and time in percentages from Table IV. By keeping in mind the percentages of time to be spent on each fundamental this instructional program can be adapted to situations where classes meet only three times or twice each week. In Table IV the activities have been listed under various categories: aquatics, individual sports, gymnastics, combative activities, individually giving the fundamentals to be taught, the sequence in which these fundamentals are to be taught, and the percentage of time to be spent in teaching each fundamental.

¹N. P. Neilson and Winifred Van Hagen, *Op. Cit.*, pp. 64-66.

TABLE I.
PROGRAM FOR THE JUNIOR HIGH SCHOOL
(GRADES 7-9)¹

I. Core Program	Weeks	Weeks	II. Elective Program (Boys—30 Weeks) (Girls—36 Weeks)*
	for Boys	for Girls	
1. Basketball -----	6	—	1. Badminton
2. Basketball (9 court)---	—	6	2. Boxing
3. Gymnastic Drills, Marching, Apparatus -----	12	12	3. Boating
4. Rhythms -----	12	18	4. Golf
5. Softball (Play- ground) -----	6	6	5. Handball
6. Soccer or Speedball	6	6	6. Hiking and Camping
7. Swimming and Diving -----	12	12	7. Horseshoes
8. Touch Football-----	6	—	8. Paddle Tennis
9. Track and Field----	6	—	9. Riding
10. Tumbling and Pyramids -----	6	6	10. Skating (Roller)
11. Volleyball -----	6	6	11. Social Games and Dances
	—	—	12. Tennis
	78	72	13. Wrestling
Electives -----	30	36	14. Restricted or Corrective Activities for Sub- normal Cases
	108	108	

*Elective program to be selected according to available facilities, devoting from 3 to 6 weeks to each activity.

¹W. R. LaPorte, *The Physical Education Curriculum*. Caslon. 1937, p. 29.

It is understood that the schedule in Table I is for class instruction purposes and is to be supplemented by an opportunity for extensive intramural participation by all students. Where this extra laboratory period is not available, the last third or fourth of the regular class period should be devoted to enthusiastic participation in the activity or game being studied. In any case, sufficient participation by the group as a whole should be encouraged.

The time allotments are approximate in terms of relative values, and are subject to minor adjustment. They are listed in terms of weeks. A given activity may be concentrated in a single year for a specific number of weeks or it may be distributed over two of the three years or distributed equally over the three years according to the preference of a given school. If desired it is possible to schedule the activities to fit seasonal sports. It is suggested that relays, gymnastic or group game, and athletic games of low organization be used as a preliminary preparation for the regular games involving the same elements.

TABLE II.
SAMPLE YEARLY PROGRAM—JUNIOR
HIGH SCHOOL¹
SUGGESTED "BLOCK" CORE AND ELECTIVE
PROGRAM (Boys and Girls)

Dates	Core Program			Elective Program	
	I. Seventh Grade	II. Eighth Grade	III. Ninth Grade		
Sept. 1- Oct. 15	1. Soccer or Speedball	1. Touch football (boys) Rhythms (girls)	1. Golf (or tennis)		
Oct. 15- Nov. 30	2. Basketball	2. Volley ball	2. Badminton (or table tennis)		
Dec. 1- Jan. 15	3. Tumbling and Pyramids	3. Gymnastics drills and apparatus	3. Handball (or squash)		
Jan. 15- March 1	4. Rhythms	4. Rhythms	4. Social dancing (or social games, or skating)		
March 1- April 15	5. Track and field (boys) Rhythms (girls)	5. Softball	5. Boxing (wrestling)		
April 15- June 1	6. Swimming and Diving	6. Swimming and diving	6. Tennis (or horseshoes, boating, camping, or hiking)		

¹*Ibid.*, p. 35.

The schedule in Table II can be administered as a graded program; or, in schools where it is impossible to schedule students according to grades, it can be used as a "cycle" program for the seventh and eighth grades with both seventh and eighth grade pupils taking the No. I program one year and the No. II program in the second year. The ninth grade pupils would then take the elective program. If it is impossible to schedule the ninth grade pupils separately, a three-year cycle program can be used omitting the electives. According to this plan all three classes would be combined and the programs I, II, and III would be alternated.

Another modification to make provision for the elective program would be to offer one elective term in the eighth grade and one in the ninth grade. In this case the seventh grade would follow the core program; the eighth grade would follow the core program during the first semester and the elective program during the second semester; and similarly the ninth grade would take the core program during the first semester and the elective program during the second semester.

TABLE III.
SAMPLE MONTHLY-WEEKLY-DAILY SCHEDULE—7th Grade¹

SEPTEMBER				
Day	First Week	Second Week	Third Week	Fourth Week
Monday	History, general description and demonstration of the game of soccer.	Soccer dribbling	Soccer goal kick	Etc.
Tuesday	Soccer kicking—technique, rules, strategy and use, etiquette, and safety precautions, individual squad and team practice.	Dribbling (review)	Goal kick (review)	Etc.
Wednesday	Kicking (review)	Dribbling (review)	Goal kick (review)	Etc.
Thursday	Soccer passing—Use same procedure as described for kicking.	Soccer stopping—same procedure	Soccer Volleying—same procedure	Etc.
Friday	Passing (review)	Stopping (review)	Volleying (review)	Etc.
Monday	OCTOBER, Etc.			
Tuesday	(Similar plan for other months selecting activities from yearly program, and fundamentals from TABLE IV.)			
Wednesday				
Thursday				
Friday				

¹*Ibid.*, p. 37.

TABLE IV.

SKILLFUL TEACHING OF ACTIVITY FUNDAMENTALS¹

The fundamentals elements of teaching units in each activity are arranged in order of preferred sequence for most effective teaching. The time allotment indicates the recommended percentage of time to be given the unit out of the total of 100 per cent for all ten units in the activity. This 100 per cent equals the total time allotted to an activity by a given school.

I. AQUATICS

SWIMMING

	Teaching Sequence	Time in %
Getting accustomed to water.....	1	10
Breathing	2	12
Floating and body position.....	3	9
Flutter kick	4	6
Crawl stroke arm action.....	5	14
Scissors kick	6	10
Side stroke arm action.....	7	10
Back stroke arm action.....	8	8
Frog kick	9	6
Breast stroke arm action.....	10	8

DIVING

Preliminary steps	1	9
Position of arms, head and body.....	2	10
Breath control	3	7
Recovery after dive	4	6
Kneeling dive from deck curb.....	5	8
Crouch standing dive.....	6	9
Straight standing dive	7	11
Standing front dive from board.....	8	13
Running front dive from board.....	9	15
Standing back dive from board.....	10	12

¹*Ibid.*, p. 16.

II. INDIVIDUAL SPORTS

GOLF

	Teaching Sequence	Time in %
Grip -----	1	7
Stance -----	2	7
Back swing -----	3	10
Down swing -----	4	10
Balance -----	5	8
Follow through -----	6	9
Tee shots -----	7	12
Fairway shots -----	8	11
Approach shots -----	9	13
Putting -----	10	13

HANDBALL

Stance and balance -----	1	8
Contacting ball -----	2	10
Service -----	3	10
Right hand strokes -----	4	10
Left hand strokes -----	5	13
Playing off back wall -----	6	10
Volleying -----	7	9
Killing ball -----	8	9
Single and double play -----	9	12
English and carom shots -----	10	8

TENNIS

Grips -----	1	6
Receiving stance -----	2	7
Serving stance -----	3	7
Forehand drive -----	4	17
Plain service -----	5	12
Backhand drive -----	6	16
Footfaults -----	7	6
Cut service -----	8	10
Volley -----	9	10
Court strategy -----	10	10

 TRACK AND FIELD (boys)

	Teaching Sequence	Time in %
Preliminary training -----	1	12
Warming up -----	2	7
Starting form -----	3	11
Sprinting form -----	4	11
Finish form -----	5	7
Standing broad jump -----	6	8
High jump -----	7	12
Shot put -----	8	11
Running broad jump -----	9	11
Relay races -----	11	10

 SQUASH

Grip of racket -----	1	6
Stance -----	2	7
Serving -----	3	11
Forehand return -----	4	13
Backhand return -----	5	14
Footwork -----	6	10
Lobbing -----	7	8
Volleying -----	8	10
Play off back wall -----	9	10
Court strategy -----	10	11

 MINOR GAMES

Badminton -----	1	15
Ping pong -----	2	11
Horse shoe (quoits) -----	3	10
Deck tennis (tennisquoit) -----	4	9
Paddle tennis -----	5	11
Croquet -----	6	8
Shuffle board -----	7	8
Ring-o-leth -----	8	13
Washers -----	9	8
Darts -----	10	7

III. GYMNASTICS

FREE EXERCISES

	Teaching Sequence	Time in %
Fundamental positions -----	1	12
Arm bending and stretching -----	2	8
Head bending-rotating-circumducting ---	3	7
Trunk bending forward-downward -----	4	10
Trunk bending sideward -----	5	9
Leg bending and stretching -----	6	9
Trunk arching -----	7	9
Thigh raising and lowering -----	8	9
Trunk rotation and circumduction -----	9	10
Combination movements -----	10	18

HEAVY APPARATUS

Approach and mount -----	1	9
Dismount and retreat -----	2	9
Front vaults -----	3	11
Squat vaults -----	4	11
Straddle vaults -----	5	11
Flank vaults -----	6	11
Wolf vaults -----	7	9
Rear vaults -----	8	11
Thief vaults -----	9	9
Sheep vaults -----	10	9

MARCHING

Attention -----	1	7
Alignment -----	2	8
Counting off -----	3	6
Facings (R., L., and about) -----	4	13
Marking time -----	5	7
Marching forward -----	6	13
Halting -----	7	8
Column right (left) -----	8	12
Marching to the rear -----	9	13
Marching by flank -----	10	13

TUMBLING AND PYRAMIDS

	Teaching Sequence	Time in %
Elementary mat work—stunts.....	1	13
Forward roll	2	8
Backward roll	3	8
Head stand	4	8
Round off and cartwheel.....	5	10
Hand stand	6	11
Hand spring	7	12
Pyramid mounts and dismounts.....	8	10
Two and three pyramids.....	9	10
Large group pyramids.....	10	10

IV. COMBATIVE ACTIVITIES

BOXING (Boys)

Stance and positions.....	1	11
Advance and retreat.....	2	9
Slipping, blocking, ducking.....	3	12
Leading	4	10
Single blows	5	13
Feinting	6	8
Clinching	7	6
Combination blows	8	11
Training activities	9	10
Ring strategy	10	10

WRESTLING (Boys)

Fundamental positions	1	11
Referee holds	2	7
Going behind and dropping opponent.....	3	10
Prevention of injuries.....	4	7
Neck and head holds.....	5	9
Training activities	6	9
Nelson holds and combinations.....	7	11
Pinning positions	8	11
General offensive fundamentals.....	9	13
General defensive fundamentals.....	10	12

V. TEAM GAMES

SPEEDBALL

	Teaching Sequence	Time in %
Kicking -----	1	12
Dribbling -----	2	12
Positions -----	3	10
Passing -----	4	13
Catching -----	5	10
Kicking-up -----	6	8
Stubbing -----	7	8
Guard -----	8	11
Pivoting -----	9	7
Trapping -----	10	9

BOYS BASKETBALL

Catching ball -----	1	8
Push pass -----	2	9
Two hand underhand pass -----	3	7
Push or chest shot -----	4	13
Dribbling -----	5	9
Underhand loop shot -----	6	7
Free throw shot -----	7	9
Individual guarding -----	8	12
Team offense -----	9	14
Team defense -----	10	12

GIRLS BASKETBALL

Catching ball -----	1	10
Chest pass -----	2	10
Underhand pass -----	3	9
Bounce pass -----	4	8
Overhead pass -----	5	8
Chest shot -----	6	13
Underhand shot -----	7	9
Guarding -----	8	14
Dribbling -----	9	9
Pivoting -----	10	10

 SOCCER

	Teaching Sequence	Time in %
Kicking -----	1	13
Passing -----	2	13
Dribbling -----	3	14
Stopping -----	4	10
Goal kicking -----	5	11
Volleying -----	6	8
Throw-in -----	7	6
Chesting -----	8	8
Heading -----	9	10
Corner kick -----	10	7

 SOFTBALL OR BASEBALL

Throwing overhand -----	1	11
Fielding flies -----	2	11
Throwing underhand -----	3	8
Fielding ground balls -----	4	13
Batting -----	5	10
Catching -----	6	11
Base running -----	7	8
Pitching -----	8	12
Sliding -----	9	7

 FOOTBALL (Boys)

Conditioning exercises -----	1	9
Training rules -----	2	5
Catching and receiving ball -----	3	9
Holding ball -----	4	4
Passing ball -----	5	9
Tackling -----	6	15
Stance -----	7	6
Blocking -----	8	17
Kicking ball—punt, place, drop -----	9	11
Footwork—cut-back—line-buck -----	10	9

TOUCH FOOTBALL (Boys)

	Teaching Sequence	Time in %
Passing -----	1	3
Stance and position -----	2	10
Catching -----	3	12
Running with ball -----	4	11
Blocking -----	5	13
Kicking -----	6	11
Dodging and side step -----	7	11
Snapper back (Center) -----	8	8
Recovery of fumbled ball -----	9	6
Fundamental plays -----	10	15

VOLLEY BALL

Handling balls -----	1	12
Underhand service -----	2	10
Passing ball -----	3	13
Practice stunts -----	4	9
Rotation -----	5	6
Recovery ball from net -----	6	8
Position play -----	7	10
Placing serves -----	8	10
Side arm service -----	9	7
Team play -----	10	15

VI. RHYTHMICS

FOLK DANCING

Polka -----	1	8
Two-step -----	8	8
Schottische -----	3	8
Waltz -----	4	11
Mazurka -----	5	8
Gavotte -----	6	8
American country dance steps -----	7	15
Minuet -----	8	9
English country dance step -----	9	15
Recognition -----	10	10

CLOG AND GYMNASTIC DANCING

	Teaching Sequence	Time in %
Threes -----	1	11
Fours -----	2	10
Fives -----	3	12
Sevens -----	4	11
Waltz fives -----	5	11
Rubber legs -----	6	7
Wiggle stick -----	7	8
Parallel and pigeon toe travel -----	8	8
Orig. comb. of fund. steps -----	9	11
Single original compositions -----	10	11

NATURAL DANCING (Girls)

Swinging -----	1	9
Percussive -----	2	8
Libratory -----	4	7
Sustained -----	5	7
Combinations of above -----	6	12
Elementary creative elements -----	7	11
Interpretation of music -----	8	11
Simple compositions -----	9	12
Interpretation of theme -----	10	10

PHYSICAL EDUCATION IN THE SENIOR
HIGH SCHOOL

A well-organized program in physical education for boys and girls on the senior high school level offers unusual opportunities for group participation and should, therefore, make significant contributions in the social life of the school. It is realized also today that physical education is as vital to the physically weak as it is to the physically strong pupil. An attempt has been made in the materials which are presented to outline a program that may be adapted to all pupils. It is, however, important that these materials be modified to fit individual situations and to meet the individual needs of pupils.

OBJECTIVES¹

1. The development of fundamental skills in aquatic, gymnastic, rhythmic, and athletic activities for immediate educational purposes—physical, mental, and social.
2. The development of essential safety skills and the ability to handle the body skillfully in a variety of situations for the protection of self and others.
3. The development of useful and desirable skills in activities suitable as vocational interests for use during leisure time.
4. The development of a comprehensive knowledge of the rules, techniques and strategies in the above activities suitably adapted to various age levels.
5. The development of acceptable social standards, appreciations and attitudes as the result of intensive participation in these activities in a good environment and under capable and inspired leadership.

¹W. R. LaPorte, *The Physical Education Curriculum*. Caslon. 1937, pp. 37-38.

6. The development of powers of observation, analysis, judgment, and decision through the medium of complex physical situations.
7. The development of the power of self-expression and reasonable self-confidence (physical and mental poise), by mastery of difficult physical-mental-social problems in supervised activities.
8. The development of leadership capacity by having each student within the limits of his ability, assume actual responsibility for certain activities under careful supervision.
9. The elimination of remedial defects and the improvement of postural mechanics insofar as these can be influenced by muscular activities and health advice, based on adequate physical and health diagnosis.
10. The development of essential health habits and health attitudes as the result of participation in the supervised activities.

ADMINISTRATIVE ORGANIZATION AND TEACHING METHODS

Detailed suggestions concerning grouping of pupils, organization of teams and clubs, technique of teaching, roll call methods, and correlation with other subjects are outlined in the section on Physical Education for Junior High School¹.

SUGGESTIONS TO TEACHERS

An effective plan of instruction for a given class period is suggested in the following outline:²

1. Review practice of fundamentals learning in the preceding class period.

¹See: pp. 183-196.

²W. R. LaPorte, *Op. Cit.*, p. 49.

2. Description of new fundamentals for the day's lesson, such as the basketball dribble and pivot, with proper demonstration and explanation of their relation to the game as a whole.
3. Practice of the new skill, individually, in mass formation.
4. Practice of the new skill by squads.
5. Practice of the new skill and preceding ones in a natural game situation using only those fundamentals that have already been presented and properly learned. This last part should introduce the learner to the completed act in the total game situation with the usual attendant pleasure and satisfaction growing out of game participation.

PROGRAM OF INSTRUCTION

The general plan of organization of the program of instruction on the senior high school level is similar to the plan which was used on the junior high school level.

TABLE I.

SUGGESTED PROGRAM FOR THE SENIOR
HIGH SCHOOL (Grades 10-12)¹

I. CORE PROGRAM	Weeks	Weeks	II. ELEC. PROGRAM*
	for Boys	for Girls	
1. Basketball (advanced) --	6	6	1. Archery
2. Gym. drills, marching and apparatus (advanced) -----	6	6	2. Badminton
3. Field Hockey -----	6	6	3. Boating
4. Rhythms (advanced) ---	12	18	4. Bowling
5. Soccer or Speedball (advanced) -----	6	6	5. Boxing
6. Softball (playground) (advanced) -----	6	6	6. Camping
7. Swimming, Diving and Life Saving (advanced) -----	12	12	7. Casting (artificial bait)
8. Touch Football (advanced) -----	6	—	8. Fencing
9. Track and Field (advanced) -----	6	—	9. Golf
10. Tumbling and Pyramids (advanced) -----	6	6	10. Handball
11. Volleyball (advanced) --	6	6	11. Hard baseball
	72	72	12. Hiking
Electives -----	36	36	13. Horseshoes
			14. Riding
			15. Roller skating
			16. Social Dancing
			17. Social Games
			18. Squash
			19. Table Tennis
			20. Tennis
			21. Target Practice
			22. Water Polo
			23. Wrestling
			24. Restricted or Correc- tive Activites for subnormal cases

*Elective program to be
selected according to
available facilities, devot-
ing from 3 to 6 weeks to
each activity.

¹W. R. LaPorte, *The Physical Education Curriculum*. Caslon. 1937,
p. 30.

The program in Table I consists of core and elective activities. Each school should select those activities from the two divisions for which it has adequate facilities. It is recommended that each activity be given for at least six weeks continuously and if desired it is possible to schedule the activities to fit seasonal sports. This would mean that the class instruction in a given activity, such as basketball, would appear in only one of the three years of the senior high school. A student should have opportunity, however, for additional participation in the intramural program or in the interscholastic program.

It is recommended that the elective program, consisting primarily of the individual carry-over type of activities, constitute at least a third of the total program for the three years. If desired, this aspect of the work might be made in the form of a varied offering of electives in the twelfth grade, from which the student himself might select. If this is done the program for the tenth and eleventh grades would be composed of the items in the core program list. A sample schedule for such a plan is suggested in Table II. If this arrangement is not acceptable or desirable, the activities in the elective program can be distributed in the schedule alternating with activities from the core program, devoting from three to six weeks to each one selected.

TABLE II.
SAMPLE YEARLY PROGRAM—SENIOR
HIGH SCHOOL¹
Suggested "Block" Core and Elective Program
(Boys and Girls)

Dates	CORE PROGRAM		ELECTIVE PROGRAM	
	I. Tenth Grade	II. Eleventh Grade	III. Twelfth Grade	
Sept. 1- Oct. 15	1. Soccer or Speedball	1. Touch Football—boys Rhythms—girls	1. Golf or Archery	
Oct. 16- Nov. 30	2. Basketball	2. Volleyball	2. Badminton or Table Tennis	
Dec. 1- Jan. 15	3. Tumbling and Pyramids	3. Gym Drill and Apparatus	3. Handball or Squash	
Jan. 16- Feb. 28	4. Rhythms	4. Rhythms	4. Social Dancing or Social Games	
March 1- April 15	5. Track and Field—boys Hockey—girls	5. Softball	5. Boxing, Wrestling or Fencing	
April 16- June 1	6. Swimming and Diving	6. Life Saving	6. Tennis, Boating, Riding, Hiking or Camping	

¹*Ibid.*, p. 35.

The above schedule in Table II can be administered as a graded program: or in schools where it is impossible to schedule students according to grades, it can be used as a "cycle" program for the tenth and eleventh grades with both classes, all of them taking the No. I program one year and the No. II program the next. The twelfth grade pupils would then have to register separately for the elective program. If it is impossible to schedule the twelfth grade pupils separately, a three year cycle program can be used, omitting student electives. According to this plan all three classes would be combined and the programs I, II, and III would be alternated.

Another modification of the elective program is to offer one elective term in the eleventh grade and one in the twelfth grade. In this case the tenth grade should follow the core program; the eleventh grade would follow the core program during the first semester and the elective program during the second semester; and the twelfth grade would take the core program during the first semester and the elective program during the second semester.

TABLE III.
 SAMPLE MONTHLY-WEEKLY-DAILY SCHEDULE
 (Five forty minute periods)
 SOCCER (advanced)

SEPTEMBER AND OCTOBER						
DAY	First Week	Second Week	Third Week	Fourth Week	Fifth Week	Sixth Week
MON.	Review elementary fundamentals	Position play	Tackling	Offense strategy	Defense strategy	Team play
TUES.	Review elementary fundamentals	Kicking variations	Tackling	Offense strategy	Defense strategy	Team play
WED.	Review elementary fundamentals	Kicking variations	Interception variations	Offense strategy	Defense strategy	Training
THURS.	Position play	Trapping	Interception variations	Offense strategy	Team play	Training
FRI.	Position play	Trapping	Interception variations	Defense strategy	Team play	Training

TABLE IIIA.
 SAMPLE MONTHLY-WEEKLY-DAILY SCHEDULE
 (Two forty minute periods)
 SOCCER (advanced)

DAY	First Week	Second Week	Third Week	Fourth Week	Fifth Week	Sixth Week
MON.	—	—	—	—	—	—
TUES.	Review elementary fundamentals	Kicking variations	Tackling	Offense strategy	Defense strategy	Team play
WED.	—	—	—	—	—	—
THURS.	Position play	Trapping	Interception variations	Offense strategy	Defense strategy	Training
FRI.	—	—	—	—	—	—

The preceding schedules are suggestive. Similar schedules for other six weeks periods can be made by selecting activities from yearly program and fundamentals from the table on activity fundamentals which follows.

TABLE IV.

ACTIVITY FUNDAMENTALS¹

Activity fundamentals are those elements of game performance which must be mastered before the game or activity can be participated in successfully. The fundamental elements or teaching units in each activity are arranged in order of preferred sequence for most effective teaching. The time allotment indicates the recommended percentage of time to be given the unit out of the total of one hundred per cent of all the units of that activity.

I. AQUATICS

SWIMMING (Advanced)		
	Order	Time in %
Review of elementary steps-----	1	10
Crawl stroke (complete)-----	2	17
Trudgeon stroke -----	3	9
Treading water -----	4	6
The racing back stroke -----	5	10
Dolphin breast stroke -----	6	9
Racing dive -----	7	9
Racing turns -----	8	9
Training for meets-----	9	13
Novelty strokes -----	16	8

¹*Ibid.*, pp. 16-18.

 DIVING (Advanced)

	Order	Time in %
Approach and hurdle-----	1	10
Take off -----	2	10
Use of arms -----	3	8
Position in air-----	4	8
Entrance into water-----	5	8
Front dives -----	6	12
Back dives -----	7	12
Gainor dives -----	8	11
Pike dives -----	9	10
Somersault dives -----	10	11

 II. INDIVIDUAL SPORTS

 LIFE SAVING

Surface approaches -----	1	12
Treading water -----	2	6
Under water approaches-----	3	8
Surface dives and recovery-----	4	8
Breaks (front and back)-----	5	15
Disrobing -----	6	5
Head carries -----	7	11
Cross chest carry -----	8	10
Resuscitation -----	9	16
Tired swimmers carry-----	10	9

 ARCHERY

Nocking the bow -----	1	7
Stance -----	2	13
Nocking arrow -----	3	7
Safety precautions -----	4	11
Drawing bow -----	5	16
Care and equipment-----	6	10
Point of aim -----	7	15
Loosing arrow -----	8	13
Pause -----	9	8

TENNIS (Advanced)

	Order	Time in %
Review of fundamentals.....	1	13
Lob	2	9
Half volley	3	7
Chop	4	9
Overhead smash	5	10
Net play	6	11
Singles play	7	12
Doubles play	8	11
Training practice	9	10
Tournament play	10	8

TRACK AND FIELD (Boys) (Advanced)

Review of fundamentals	1	10
Middle distances	2	9
Low hurdles	3	10
Distances	4	8
High hurdles	5	12
Pole vault	6	12
Shot put (12-lbs.)	7	9
Discus	8	10
Javelin	9	10
Training and officiating	10	10

III. GYMNASTICS¹

FREE EXERCISES (Advanced)

Review elementary positions.....	1	9
Movements—squat rest positions.....	2	8
Movements—front leaning rest.....	3	8
Movements—sitting position	4	9
Movements—side leaning rest.....	5	8
Movements—back lying position.....	6	11
Movements—back leaning rest	7	7
Lunging and charging	8	11
Combination movements	9	16
Rhythmical movements	10	13

¹*Ibid.*, pp. 18-19.

HEAVY APPARATUS

	Order	Time in %
Review of fundamentals -----	1	11
Uprises -----	2	10
Upstarts -----	3	11
Cut-offs -----	4	9
Circles -----	5	10
Balance stands -----	6	10
Levers -----	7	8
Spotting -----	8	8
Fly-aways -----	9	8
Combinations -----	10	15

MARCHING (Advanced)

Review of elementary fundamentals----	1	11
Fours right (L) and about-----	2	12
Column right (L) (in fours)-----	3	10
Column half right (L)-----	4	9
Oblique marching (R) (L)-----	5	10
Open order -----	6	8
Company right (L) and about-----	7	10
Right (L) front into line-----	8	11
Double time marching -----	9	9
On right (L) into line-----	10	10

TUMBLING AND PYRAMIDS (Advanced)

Review of elementary fundamentals----	1	11
Upstarts -----	2	9
Somersaults (forward and backward)--	3	12
Backward handspring -----	4	12
Companion stunts -----	5	11
Twisters and combinations-----	6	11
Springboard stunts -----	7	9
Convex type pyramids -----	8	8
Concave type pyramids -----	9	8
Apparatus type pyramids -----	10	9

IV. COMBATIVE ACTIVITIES¹

BOXING (Boys) (Advanced)

	Order	Time in %
Review of elementary steps-----	1	10
Use of the left -----	2	13
Use of the right -----	3	11
Defensive tactics -----	4	13
Footwork and use of legs-----	5	11
Counter punching -----	6	10
Upper cuts -----	7	7
Crouch and weave -----	8	8
Training activities -----	9	10
Left-handed boxer -----	10	7

FENCING (Advanced)

Review of elementary steps-----	1	14
Massary -----	2	7
Quarte -----	3	9
Leap -----	4	7
Quinte -----	5	7
Sixte -----	6	9
Attacks -----	7	19
Septine -----	8	7
Counter parries -----	9	14
Octave -----	10	7

WRESTLING (Advanced)

Review of fundamentals-----	1	10
Procedure from defensive position-----	2	12
Other holds from position of advantage--	3	11
Double wrist locks-----	4	7
Holds from in front kneeling-----	5	8
Scissor holds and combinations-----	6	10
Advanced training activities-----	7	7
Other holds standing-----	8	9
Blocks and counters -----	9	11
Defense against holds-----	10	13

¹*Ibid.*, pp. 18-19.

V. TEAM GAMES¹

SPEEDBALL (Advanced)

	Order	Time in %
Review elementary fundamentals-----	1	12
Heading -----	2	7
Offense strategy -----	3	15
Knocking-on -----	4	7
Defense strategy -----	5	13
Offense turn plays -----	6	10
Defense turn plays -----	7	10
Special plays -----	8	9
Training tactics -----	9	8
Leadership and officiating-----	10	9

BOYS BASKETBALL (Advanced)

Review of fundamentals -----	1	12
Pivoting -----	2	9
Hook pass -----	3	6
Bounce pass -----	4	6
Screening -----	5	7
Man for man defense -----	6	13
Fast breaking offense -----	7	12
Zone defense -----	8	10
Slow breaking offense -----	9	12
Team plays -----	10	13

GIRLS BASKETBALL (Advanced)

Review elementary fundamentals-----	1	11
Receiving ball -----	2	7
Passing -----	3	13
Field shooting -----	4	12
Foul shooting -----	5	9
Feint or dodge -----	6	9
Juggle -----	7	6
Offensive team play -----	8	14
Defensive team play -----	9	14
Training -----	10	8

¹*Ibid.*, pp. 20-22.

SOCCER (Advanced)

	Order	Time in %
Review elementary fundamentals-----	1	11
Position play -----	2	11
Kicking variations -----	3	8
Trapping -----	4	7
Tackling -----	5	8
Interception variations -----	6	9
Offense strategy -----	7	13
Defense strategy -----	8	12
Team plays -----	9	12
Training -----	10	9

SOFTBALL OR BASEBALL (Advanced)

Review elementary fundamentals-----	1	11
Infield play -----	2	12
Playing the bases -----	3	9
Outfield play -----	4	8
Advanced pitching -----	5	10
Bunting -----	6	7
Base stealing -----	7	7
Team offense -----	8	13
Sliding -----	9	6
Team defense -----	10	17

FOOTBALL (Boys) (Advanced)

Charging -----	1	10
Line play -----	2	14
End play -----	3	9
Guard play -----	4	9
Center play -----	5	9
Backfield play -----	6	15
Blocking punts and kicks -----	7	5
Deceptive interference -----	8	7
Returning kickoffs -----	9	5
Field generalship -----	10	8

TOUCHBALL (Boys) (Advanced)

	Order	Time in %
Review elementary fundamentals-----	1	11
Passing forward -----	2	10
Pass receiving -----	3	12
Passing backward lateral -----	4	9
Catching kicked ball -----	5	8
Center pass -----	6	6
Body block -----	7	9
Line up formation -----	8	8
Offense strategy -----	9	15
Defense strategy -----	10	12

VOLLEYBALL (Advanced)

Review elementary fundamentals-----	1	11
Handling low ball -----	2	8
Overhead service -----	3	9
Handling high ball -----	4	9
Passing up -----	5	11
Setting up -----	6	12
Spiking "killing" -----	7	11
Blocking -----	8	7
Attack -----	9	11
Defense -----	10	11

FIELD HOCKEY (Girls) (Advanced)

Review elementary fundamentals-----	1	12
Scoop -----	2	9
Reverse -----	3	8
Left hand lunge -----	4	10
Jab -----	5	7
Penalty corner -----	6	9
Defense tackling-interception -----	7	14
Offense from bully -----	8	11
Offense from corner -----	9	10
Offense from roll in -----	10	10

VI. RHYTHMICS¹

FOLK DANCING (Advanced)

	Order	Time in %
Advanced technique -----	1	22
Advanced material -----	2	20
Knowledge of background -----	3	13
Advanced national dances -----	4	24
Customs -----	5	11
Costumes -----	6	10

CLOG AND GYMNASTIC DANCING (Advanced)

Review of fundamentals -----	1	12
New combinations -----	2	16
Advanced technique -----	3	18
Rhythmic analysis -----	4	13
Advanced character study -----	5	11
Original compositions -----	6	17
Reproductions of rhythmic patterns----	7	13

NATURAL DANCING (Girls) (Advanced)

Review fundamental technique -----	1	11
Advanced technique -----	2	16
Different approaches to composition----	3	11
Time elements -----	4	8
Technique of percussion -----	5	8
Space elements -----	6	8
Music construction in relation to dance--	7	13
Force elements -----	8	8
Original compositions—solo-group -----	9	17

¹*Ibid.*, pp. 22-23.

SPORTS AREAS¹

Fortunately, it is possible with proper construction to use certain sports areas for a number of different activities at different times. For example, the tennis court area can be used for badminton or paddle tennis.

Table V indicates in concise form the desirable and minimum number of units of the commonly used areas, with suggestions for their multiple use.

It should be understood that the following table is suggested for the more fortunate schols. One field may be used for all activities and be ample if a proper schedule is drawn up beforehand.

¹*Ibid.*, pp. 39-40.

TABLE V.
SPORTS AREAS

		Desirable Area Units	Minimum Area Units	Multiple Usage
I. Special Court Areas	Archery			
	Badminton			The same area can be used alternately for badminton, paddle tennis, tennis and for handball and modified squash (by building backstops across one or both ends of tennis courts), and for basketball and volleyball if surface is not hard.
	Handball			
	Horseshoes			
	Paddle tennis	8	4	
	Squash			
	Table tennis			
	Tennis			
	Basketball			Either No. II or No. III areas can be used for basketball and volleyball, and in some cases No. I.
	Volleyball	4	2	
	Baseball			
II. Field Areas	Field Hockey			The same areas can be used alternately for all activities listed, if necessary.
	Football			
	Softball	2	1	
	Soccer			
	Speedball			
	Track and Field			

TABLE V. (continued)

Golf	2	1	A miniature golf set, with driving cages, putting greens, and approach fairways can be constructed inexpensively on a small area, by careful planning.
III. Gymnasium Areas			
Apparatus			
Boxing			
Corrective			
Fencing	2	1	The same gymnasium floors can be used alternately for all activities listed, although separate rooms are desirable for corrective, wrestling and apparatus.
Gymnastics			
Rhythms			
Tumbling			
Wrestling			
IV. Pool Areas			
Swimming Pool	2	1	The same pool area can be used for all purposes, although it is desirable to have a shallow pool for beginners and a deeper, larger pool for experienced swimmers.

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Rogers, Martin, *Handbook of Stunts*. Macmillan. 1928.

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Pamphlets

American Red Cross. Blakiston.

Swimming and Diving.

Life Saving and Water Safety.

Spalding's Athletic Library. American Sports Publishing Company, New York.

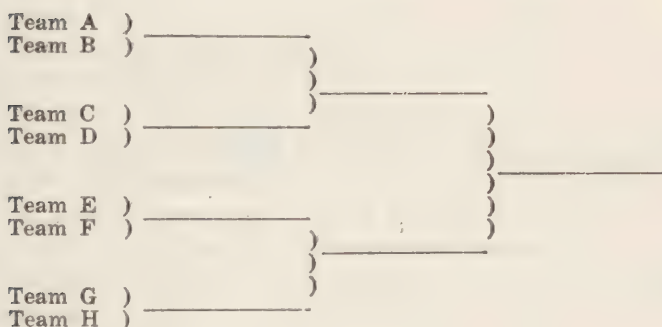
(Pamphlets on all popular sports)

APPENDIX

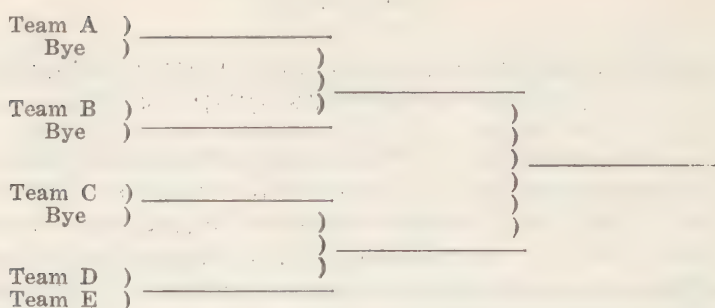
A. SUGGESTED PLANS FOR THE ADMINISTRATION OF COMPETITIVE EVENTS

An important factor in the success of a physical education program and an intramural program is the selection of the most suitable method of organizing competition. The aim should always be to keep as many units, or players, competing as space will permit. By doing this rivalry can be maintained until the end of the season. The space, time, and number of competitors should be given careful consideration before a definite plan of competition is selected.

I. Tournament (Single Elimination).



The above plan is the simplest and quickest for competitive team games. In this plan the teams are bracketed in pairs by chance drawings and the winners play each other until all have been eliminated. The bracketing must always be made up on the basis of a perfect power of two: as 4, 8, 16, 32, —. When the number of teams is not a perfect power of two, only enough games are played in the first round to reduce the number of teams to a perfect power of two as shown below.



The total number of games necessary to complete the tournament is always one less than the number of teams entered.

II. Percentage Plan (Round Robin).

When there is sufficient time and space, each team should be allowed to play against every other contestant and the winner chosen according to the percentage of victories. This percentage is found by dividing the number of wins by the number of games played. This plan is most satisfactory when the number of competing teams does not exceed eight. In case there are more than eight teams, round robin schedules in leagues of eight teams must be arranged and then have the winners of these leagues play for the championship. In order to find the number of games necessary to complete a round robin, the following formula is used in which N is the number of entries: $\frac{N(N-1)}{2}$.

III. Perpetual Tournament.

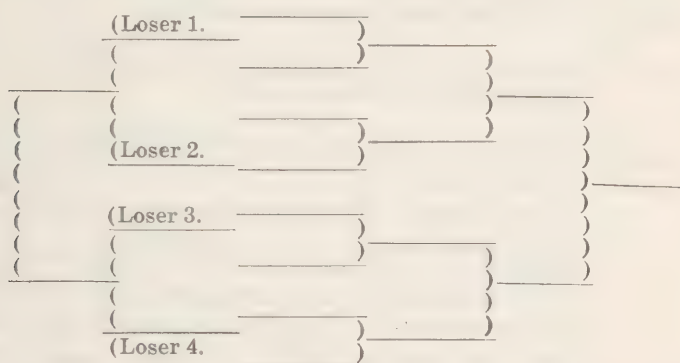
This plan is especially good for individual sports. At the start of the season the players are tentatively ranked. After list is posted, any player may challenge any of the three players just above him. All such challenges must be accepted and played within a certain time. If the upper man loses his name is placed below that of his challenger and all players between the two advances one place.

IV. Tournament (Double Elimination).

1. One plan is to have the losers of the first round of games play Backward in a consolation bracket as indicated below:

(Consolation)

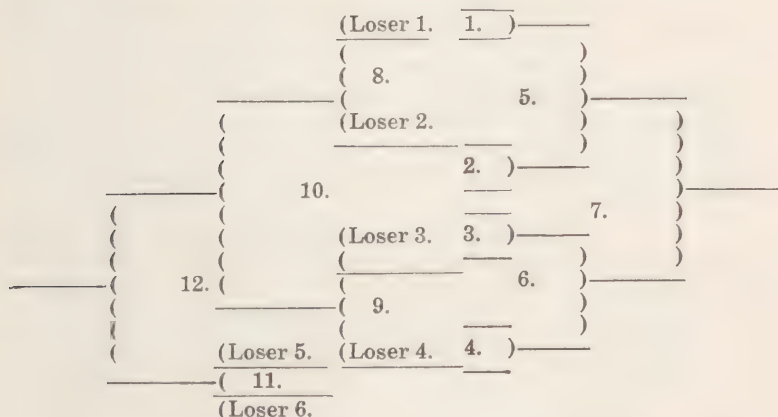
(Main Tournament)



2. The other method is to have a continuous consolation to include the losers from all rounds as indicated below:

Consolation

(Main Tournament)



The numbers indicate the sequence of games or contests.

General Suggestions:

1. Always have a definite time and place for all games and have the schedule of games posted on bulletin board.
2. Interest in a tournament is increased if rankings are made public and posted where all students can see their relative rank.
3. No team or individual should be allowed to compete more than once a day.
4. Entries in all events are encouraged if a yearly total is kept for all groups and a sweepstakes prize given to the highest ranking group.
5. Seeding, or the placing of the best teams or individuals in different brackets, may be adopted advantageously when some knowledge concerning the relative ability of the competitors is available before competition begins.

APPENDIX

B. DIRECTORY OF PUBLISHERS*

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APPENDIX

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